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Agricultural Fairs—their Influence.

County, State and National Agricultural and Mechanical Fairs have now become permanent institutions in the United States. In no country are similar fairs so perfectly organized and so systematically carried out. "Cattle Shows" were instituted many years ago in England, and more than forty years ago they were introduced in Kentucky through the enterprise of Lewis Sanders, now of Grass Hills, in that State. But the Cattle Shows of England neither then nor at the present day possess the interest of the Agricultural and Mechanical exhibitions now held in the United States. In England, the leading breeders of improved stock exhibit their animals in open lots without shelter or any very special accommodations. In the United States many of the county and local associations own considerable tracts of land, thoroughly enclosed with substantial board fences, and the interior admirably fitted up with capacious halls for the exhibition of every variety of

machinery, for domestic manufactures, fruits, flowers, &c. &c., besides substantial stalls for every species of farm animals. These grounds and their fixtures are secured for permanent exhibition at a cost, often of \$50,000; while the expense of similar fixtures at each State fair where the location is not permanent, ranges generally somewhere in the neighborhood of \$8,000 for a single exhibition.

These annual fairs, occurring at the close of the busy season of the farmer are now regarded as essential holiday festivals, where friends from a distance are expected to meet either on matters of business or for social enjoyment. But, aside from the pleasures afforded to the farmer and his family by these annual gatherings, they have resulted in incalculable good not only to the great mass of farmers in general, but to mankind at large. Through spirited competition the most improved domestic stock has been introduced from other countries, and bred with the object of still further improvement, until it would seem that the point of perfection has been almost attained, and until the same amount of food will produce ten, twenty, and even fifty per cent. more flesh or wool than was derived from the old common stock of the country.

But still greater benefits have resulted to the masses from competition growing out of these annual displays through the instrumentality of our ingenious inventors and mechanics. It is hardly ten years since the mowing and reaping machine was brought to that perfection as to gain the confidence of the farmer sufficient to give it a trial. Now the old scythe and snath have almost entirely gone out of use, and so great has been the improvement of this useful class of machines that they not only cut the grass and

grain in the most expeditious and perfect manner, but the reaper is made to rake and bind the sheaves and deliver them upon the field in a manner hardly equaled by the most careful farmer by hand. Others will cut, thresh and bag the grain, at the rate of twenty acres or more a-day, leaving the straw upon the field to fertilize it, which otherwise, in many instances, is burned at the stack-yard to get it out of the way. What has been achieved for the farmer in the way of invention and improvement in mowing and reaping machines has also been done with almost every implement and machine necessary for seeding, cultivating and harvesting the various crops now grown, whether in the North or South. The farmer mounts his seat and rides over his fields, not only in cutting his grain and grass, but with his rake on wheels he rides in his easy chair and gathers his hay into winrows ready for the stack or the barn with scarcely the exercise of a muscle. Similar improvements have been made in the various implements required for nearly all of the labors of the farm, until the labor of cultivating five hundred acres is less than was required fifty years ago on fifty acres, and still improvement goes on at a more rapid rate than ever before. Had not the numerous annual fairs afforded an opportunity for inventors to congregate and exhibit their varied inventions side by side with those of a similar character, where different minds could see and analyze the mechanical devices of each competitor, exposing the defects and suggesting the remedies which their respective originators failed to perceive, it is hardly probable that machinery in its present perfect form would have been attained within a period of fifty years to come.

It is at these fairs, too, where the farmers can witness these various improvements and become in some degree familiar with their merits, as labor-saving machines, and be induced to give them a trial, whereas if left to work their way into notice without such general exhibitions, it would be a long time before the farmers would be made acquainted with their value. The single novel feature which was introduced at the New York State Fair, the past season, at Elmira, in regard to the subject of land-draining will do more to enlighten the farmers in regard to that important branch of farm improvement than pages written on the subject in the Agricultural journals of the day. We allude to a premium being offered by the Society for the best specimens of drain tiles laid in the usual manner of land draining, the trenches in part being left

open so as to display the whole process to the judges as well as to the public at large. This simple exhibition will show the farmers the whole routine of the work, and will lead to further investigation, and will convince hundreds of farmers that the cause of late, small crops, in certain situations, is owing mainly to the excess of water in the soil, and that the means of removing it, at a moderate cost, is within the reach of every farmer, and that the entire cost of land draining may, in most instances, be more than paid by the excess of the crop within a period of three years, and often in a single season.

We have thus alluded to a few of the benefits resulting from the Agricultural fairs as established in the United States. The fairs generally the past season have been highly successful, and will, no doubt, continue to exert a beneficial influence for years to come. The most important element of success is the appointment of honest, disinterested judges to act in the various departments. Any attempt to show favor in awarding premiums to any particular friend, or to any particular State or section, should be discountenanced and the persons found guilty of such acts should at once be dismissed from further service.

Agricultural Department of the St. Louis Fair.

Most of the newspapers of the West have contained very full reports of all the departments of the late Fair, and as most of our readers have read these reports, we shall occupy but little space in speaking of it. Acting as Superintendent of one of the most important departments and discharging many other duties devolving upon us as a Director, we had no time to make any notes of the articles on exhibition. We shall barely notice a few of the most prominent objects:

THE STEAM PLOW, invented by Robert L. Steen, and manufactured by Roberts & Steen, of Hannibal, Mo., was the chief object of interest in this Department. It was put into operation in a field adjoining the Fair Grounds, and practically demonstrated that plowing can be done by steam. A large Locomotive or Steam Wagon, as it is called, having four large broad wheels, is propelled by a small steam engine located on the wagon, and to this wagon a gang of six plows was attached. The wagon moved on, drawing after it its train of plows, in ground baked nearly as hard as brick by the long severe drought. It would have been impossible to have plowed the

ground by any ordinary team. One of the plows was broken by the hardness of the ground, but the other five were forced through the earth, doing the work as well as could be expected under the circumstances. There was no breaking of the machinery, there was no failure in the work—the plowing was done successfully at different trials. A ditching machine was attached to the steam wagon—the plows having been taken off—and excavating was done more rapidly than we ever saw it done before.

We do not say that plowing can be done by this invention, economically, for we have not seen a sufficient trial of it—but we think it preferable to Fawkes' Steam Plow which we have seen in operation.

There was a fine exhibition of Implements, Machines, &c. from our St. Louis Agricultural Houses, viz: Plant & Brother; Garnett & Co.; Landreth & Son; and Kingslands & Ferguson. There was also a large number of machines of more or less merit from some of the Eastern States.

REAPERS AND MOWERS—Kingslands & Ferguson took the First Premium as a Combined Machine on their Improved Missouri Manny Machine, and First Premium on same Machine as a Reaper. E. Ball received First Premium on his Machine as a Mower.

Tobey & Anderson, of Peoria, Ill., received First Premium on Light Sod Plow, on Sub-Soil Plow, on Fallow Plow: John Garnett & Co., Agents.

John Deere & Co., of Moline, Ill., received First Premium on Sod and Sub-Soil Plow, Stiff Sod Plow, Wheat Cultivator, Corn Cultivator, &c., &c.: John Garnett & Co., Agents.

THRESHING MACHINES—Messrs. Kingslands & Ferguson, of St. Louis, received First Premium on both their four-horse power and eight-horse power Threshing Machines. The same firm also received First Premium on their Corn Sheller (horse).

HAY PRESSES, PORTABLE—Ensign & Davis, of St. Louis, received First Premium; Walker, Tree & Co. Cincinnati, Manufacturers. J. K. Harris, Allensville, Ind. Second Premium. The Committee, however, reported as follows:

"The undersigned Committee on Agricultural Implements, Class A. having examined the Hay Press owned and exhibited by John K. Harris and known as the Mormon Beater Hay Press, are fully satisfied that it is the best press on exhibition at the St. Louis Fair for putting up hay in small, compact bales for railroad and river shipment, making a material saving in freights. It is also very convenient and expeditious in

operation, there being no tramping of hay in the box, it being packed very closely in the box by the action of a beater or driver while being put in the box, making a great saving in the traverse of the follower when pressing the bale. But as the first premium was offered for a portable press, we had to award the premium to a hand press. THOS. G. SETTLE, *Chairman of Com.*

MOLE DRAIN PLOWS—A. Hammond, of Jacksonville, Ill. received First Premium on his Patent Mole Drain Plow. There were four of these plows on the ground, viz: Hammond's, Miller's, Cox's and Hanon's. The two first were practically tested. Hammond's Plow makes what is called the solid arch in the clay itself, Miller's draws in after it a triangular arch made of plank. If the former will answer the purpose—as experience seems to prove—it is quite a saving in the cost of plank, manufacture of the arch, &c.

Among the many farming implements exhibited, perhaps no one of recent invention merits a more favorable consideration than the McCormick & Baker Drill. It is wholly free from the objection urged against the drills now in use. It has the capacity to operate most successfully in ground however foul or trashy.

There was awarded to this Drill a Grand Gold Medal of Honor for being the most important invention relating to agriculture patented within three years. We are informed that they will be manufactured by the inventors in this city.

Seeding Land to Blue Grass.

A correspondent, A. H. H. of St. Louis county, wishes to know if Kentucky blue grass will do well in Missouri, and if so he asks why it is not raised, stating that he has never seen it growing in that county. When is the best time to sow the seed, the spring or fall; and whether it should be sown on wheat or oats, or on the open ground? &c.

We presume our correspondent does not know the variety known as Kentucky blue grass, although it is a variety with which he is most familiar, as it is found immediately in the march of civilization in all latitudes north of 36°. It is the grass known under various names, such as spear grass, June grass, blue grass, &c. It is indigenous, and only requires that the soil be subdued, as it comes in without seeding. It is designated as Kentucky blue grass because it grows on the deep, rich, fossiliferous limestone sections of that State in greater perfection than in almost any other parts of our country, yet it grows well on most rich soils, particularly when partially protected from the burning rays of the sun by scattered trees.

In the volumes of the *Valley Farmer* for 1856 and 1859, we published full directions for seeding this grass in woodland and in open pastures. In woodlands the undergrowth and least valuable trees should be cut off and the surface well cleaned. This done, the seed may be sown in winter or early spring upon the fresh cleared surface, and the rains on new light woodland soil will be sufficient to cover the seed. When required on open or cleared ground it may be sown on winter grain, or on oats in March. One bushel (fourteen pounds) of seed should be sown to the acre, and when sown on open land it is best to sow with it two or three quarts of clover seed, the clover affording protection to the young plants. Blue grass in open ground is more liable to be burned out while young if the spring and first summer prove dry and hot, than when sown in woodland.

We have said that blue grass is indigenous to the soil, but it requires several years for the land after it is cleared to become well set from natural planting, hence it is best to sow the seed in order to secure an early growth.

Blue grass should never be pastured until after the first growth of seed; for until the plants mature and the ground gets well set, the cattle are liable to pull it up by the roots. When once established it sends its roots to a great depth. We have traced them, by washing down the side of a bank, to a length of four feet, nearly all the distance of equal size. It is the great depth of limestone soil that causes the superior excellence of the Kentucky pastures.

CULTURE OF WHEAT.

It is sometimes said that blessings come to us in disguise. For twenty years or more the farmers of New York have had their wheat crops cut short by the midge, which finally prevailed to such an extent that entire fields were destroyed throughout whole districts, and many farmers abandoned wheat growing altogether and adopted other crops as a substitute; others more persevering and far seeing continued its culture by adopting such measures as seemed most likely to avoid injury from the midge. The chief means employed [were such as were calculated to bring the crop to a certain stage of maturity before the proper season arrived for the insect to appear. The earliest varieties of wheat were procured for seed, and every other means were employed to hasten the maturity of the crop. Foremost among the successful experimenters in this line was Mr. John Johnson,

one of the best farmers in America, a Scotchman by birth and education, who knew from his experience in the "Old Country" that it was in vain to attempt to grow wheat successfully upon proper wheat land, somewhat heavy and wet, without under-draining. This process, it is well known to all intelligent farmers, tends to hasten the maturity of crops; because, while the soil is unduly filled with water, and during the period of escape by the natural and slow process of evaporation, it is done at the expense of a great degree of heat from the soil that the growing crop requires for its speedy development and maturity. It was consequently found that under-draining, in connection with the other means employed (such as a better preparation of the soil, &c.), brought forward the wheat crop a few days in advance of that cultivated in the careless manner of the farmers generally, and almost entirely baffled the midge, and not only so but it was found that under-draining caused an increase in the crop of wheat that in one or two years more than paid the cost of tile draining. This increased the demand for tile until instead of a single establishment in Albany for the supply of this article, several others have gone into operation in that city, and in addition to these there is hardly a district in the State where tile are not manufactured. The improvements adopted in the culture of wheat have not only overcome the ravages of the midge, but have caused an increase in the aggregate yield in the State of at least one hundred per cent. Had not necessity compelled the adoption of these improved means of farming in order to overcome the evil effects of this insect, it is hardly probable that the system of land draining would have reached its present state of progress in the United States so early by thirty years; for not only has it very generally been adopted by the farmers of New York, but it has extended into many other States, even where the midge has not yet found its way. It is not the wheat crop alone that is benefitted by drainage, but corn and all other crops are equally or more promoted in their growth. Land draining in England and France is done chiefly by aid of the Governments of the two countries, but in the United States each farmer is the proprietor of the soil he cultivates, and he must depend upon his own resources for improvement.

A ten-acre field, costing fifty dollars per acre and drained, manured and improved at fifty dollars more, so as to give double crops, is much more valuable and profitable than twenty acres unimproved costing the same money.

Storing Potatoes and Other Root Crops.

In our last number we gave directions for building a potato house, and the best method of storing the crop. We do not expect that every farmer who has raised a crop of potatoes will find time, or feel able or disposed to adopt our plan and build a potato house, whatever advantages that plan may secure, which experience proves are neither small nor few; but thousands will still follow the old plan of the aborigines, and of their grandfathers, and bury their root crops in the ground. To such, then, we will offer a few words of advice, because even this method of storing roots may be improved. We have named in the article referred to, some of the evils resulting from storing potatoes in the earth. The greatest of these is their liability to heat and sprout, changing the whole character of the tuber and rendering them unfit to eat and greatly injured for seed. These evils are greater in our mild climate than they would be in a country where the cold is more severe and steady. To store potatoes, turnips or beets in this way, the injuries to which they are subject may, in a great degree, be checked by proper storage and ventilation. The potatoes or other roots should be allowed to become as perfectly dry as possible before they are piled up. The place for burying them should be in a sheltered situation and upon a high dry knoll. The pit should not be dug more than one foot deep. If a large quantity of roots are to be stored it is better to put them into a trench not over five feet wide and made sufficiently long to receive the quantity to be stored. Pile them up snugly, and quite to a sharp ridge; on to the whole lay dry straw or coarse grass several inches thick, and in such a way as to turn the water as much as possible; then cover with six or eight inches of earth firmly packed and smoothed off. The whole should then be protected from the rain and snow with boards. Before severe cold sets in, three or four inches more of earth should be added to the whole and the boards restored.

But the most essential part of the whole operation is to secure thorough ventilation, that will allow all the heat and gas generated by the heap to pass off freely. This is done by inserting (when put up) boxes or funnels, three or four inches square, below the top of the roots, extending above the earth and the whole packed firmly around them. These should be placed within six or eight feet along the entire length of the heap. As a substitute for these funnels round smooth sticks, of suitable diameter may be placed

where the openings are wanted, and when the heap has been finished and the earth well settled the sticks may be withdrawn, leaving openings that will answer the purpose. In very cold weather these openings should be stopped with a wisp of straw or hay.

Upon the free escape of heated air from the pile, and the protection from water, depends the success of this method of storing. Along each side of the pile a ditch should be dug so as to prevent any water settling under the roots.

HOW TO BUILD AN ICE-HOUSE.

We have been requested to give the best method for building an ice-house. Ice-houses in the country are most generally made under ground, because the erroneous impression prevails that ice will keep better under ground than above. This is an error, because the earth is a more ready conductor of heat than the air is. The only advantage in sinking an ice-house below the ground is that it is more easily filled than when it is erected entirely above the surface of the ground. Where a north side is convenient, a house can be built having three sides open to the air and the other against the bank from which side the ice may be carted and thrown down, saving the labor of raising it as when the house is entirely above ground; but with convenient fixtures there is no difficulty in filling a house entirely above ground. All the large commercial ice-houses near Boston are built above the ground.

The first important requisites for an ice-house, are drainage and ventilation. When a house is built under ground, if the earth is not sandy so as to admit the waste water to run freely into it, it can only be removed by pumping, and this is liable to be forgotten or neglected when it is most needed. When a side hill is at hand, drainage is easily secured, and this should be so arranged as to admit of the passage of the water without leaving it too much open to a current of air.

The more compact the body of ice in the house is, the less it will waste. A perfect square, that is, a cube, exposes the least surface to the earth. For a family ice-house twelve or fourteen feet square will usually keep ice the year round. Ordinarily houses are made with a single wall and a lining of straw is put in after the ice shrinks from the sides; but this is a bad plan, the work is too often neglected when it requires to be done. To build an ice-house, then, let it be above ground, or against a side hill. Build the outside walls of brick, stone or timber of the

size required; within these carry up a lining wall of scantling and plank eighteen inches from the outside walls, fill the spaces between the two walls with tan-bark, saw-dust, or what is by far the best charcoal. The floor should rest on timbers placed near together, but they should not be connected with the walls of the house. Mr. Tudor, the great ice-house architect of Boston, in his ice-houses, lays a foundation for his floors of blocks of wood over the entire bottom, and places the plank upon these. These make a strong foundation and at the same time admit of perfect drainage—the water being carried off from below in channels provided for it. A ceiling should be placed overhead, and upon this it would be well to place three or four inches of saw-dust or tan-bark. Through this ceiling, and up through the peak of the roof, a square trunk or tube, say one foot or more square should be carried up and protected from the rain by a raised roof over the top.

In packing ice where it is eight or ten inches thick, it is usually cut by machinery, which makes the blocks of uniform size; these may be packed to best advantage, laid up in a solid wall, and waste much less than when broken into irregular pieces; but in our mild climate where ice seldom exceeds three or four inches thick, and when but few days together occur suitable for packing, the most common method is to pound the ice into small pieces in order to render it the more compact. Broken in this way, if the weather is cold at the time, it will usually congeal and become somewhat solid. When the house is filled, the surface of the ice should be covered with a few inches of straw. If the walls of the house are made double and filled in, as we have suggested, it is always ready to receive the ice and the work may be done at any time when a favorable season occurs for cutting, without delay from clearing out the packing of a former year, or delay in hauling straw for a similar purpose.

IMPORTATION OF BONES.—It is reported in some of the papers that a ship load of human bones have been landed in one of the Eastern ports from the Crimea. These bones, it is said, have been gathered up from the battle fields at Sebastopol, where they have lain since the memorable battles at that place. Whether these bones are really human bones we will not attempt to say, but the fact of their importation into this country is proof positive that some of our American farmers are beginning to see the importance of husbanding all the resources within their

reach that will add to the fertility of the soil. It is a fact that the bones on the battle fields of Napoleon the I. were gathered up and served as manure for the wheat fields of Great Britain, and since that time thousands of tons of animal bones have been exported from this country to England for the same purpose. Besides thousands of tons of bones reared from the products of American soil and gone to that country, nearly the entire stock of the oil cake of this country has found the same market, and after having served the purpose of fattening the beef and the mutton raised in that country, has finally reached the fields of the British farmers in the form of manure. While our surplus grain is exported to other countries, our farmers would do well to retain at home the bones of our slaughtered animals, and the cake from our oil mills, to sustain the wasting fertility of our own soil, as well as to husband every other species of refuse matter upon the farm that can in any way answer the same end.

RECEIVING AND GIVING.

When the agriculturist (says the celebrated Liebig) loses sight of the conditions which determine the duration of his large crops, and relies on the effects of his labor alone, without at the same time taking care to replace, by manuring, those substances which are removed by his crops, he is then speculating on the wealth of his fields of the extent of which he knows nothing, and can receive no information from others. He seizes beforehand on the product of his fields, which in after years would undoubtedly have come to him; and the only difference between him and a railroad speculator is in general this: That the punishment for his foolish deeds inevitably overtakes him or his successors, which the speculator sometimes escapes by laying on the shoulders of others. The apparently remunerative employment of these means on many fields may last for a long time ere the agriculturist becomes aware of the injury he is doing himself by neglecting to return the mineral and other substances removed by his crops; but the longer he continues by them to obtain these large crops, he is approaching nearer and nearer the limits at which they must cease. These are lessons which it is hard for our farmers, cultivating a rich virgin soil to learn and appreciate; yet the very lands which have occupied so much of the attention of this distinguished chemist, and which now only yield remunerative crops by the application of immense quantities of guano, bones and other costly manures, were once as rich as the most fertile prairies of the Great West.

FARM ACCOUNTS.

No considerable business of any kind can be carried on understandingly and safely without keeping a regular and full account; yet, strange as it may appear, many farmers keep no accounts, and many who do, merely keep a sort of memoranda of the gross receipts and expenditures which constitute their utmost efforts in this important branch connected with the chief business of their lives. Besides accounts of the transactions with men of business, there should be a regular account opened with every crop, charging the amount of the labor, manure, seed, &c. and full credit for the amount of the crop harvested.

Upon farms generally a "Mixed husbandry" is the most certain, for if confined to the cultivation of one or two of the staple crops the whole dependence for the year may be cut off by adverse weather; whereas, if a variety of crops are grown, and where practicable stock raising of some kind should come in to increase the resources of the farm, some one of these may be depended on, even should others be cut short by frost, drought or other casualty. In order, then, to know the relative profit or loss that results from any of these various crops during a series of years, an account should be opened with each. If this were done, for instance, with many of our corn growing and pork raising farmers, and an estimate made of the cost and value of the hogs at the time the corn feeding and fattening process begins, and the value of the corn consumed charged to the pork account, we think that in too many instances it would be found that the corn consumed, if estimated at the market price, would be worth more than the pork it produced. This fact being ascertained, every prudent farmer would at once look about for a remedy—he would either change the character of his crops or he would seek some more economical and profitable system of making pork. So with the wheat and other crops, if the market returns did not prove adequate to meet the cost of production, including rent, wear and tear of implements, &c., a system of more thorough culture, land drainage, if necessary, and better manuring would be adopted; for no prudent man will long continue in a business that does not pay; and how can he determine the profit or loss without keeping some account of the expense incurred, and the amount returned?

In his transactions and dealings with his neighbors he would not hesitate to keep a close account. It is equally important, then, for the

farmer to do so with his several crops; and govern his mode of farming accordingly.

A systematic and careful farmer will not only keep accounts with his several fields and crops, but also keep a weekly account of labor, with names of laborers opposite the days of the week, and a column at the end of each for money paid per day, &c.; a daily journal of transactions; a monthly account of cash, with dates, sums received, and sums paid; a yearly or monthly account of live stock, with description of number, increase by purchase and birth, accidents, sale, consumption, &c. It is also interesting, if not important, to keep a daily record of the weather, with an account of the thermometer, barometer, wind, rain, &c.

Crops in Arkansas, Missouri and Illinois.

BESTSIDE, ARK., SEPTEMBER 7, 1860.

EDS. VALLEY FARMER:—Oh! dear! the weather is so warm! With 100° Fah. in the shade it is really too great an undertaking to write, unless I could tell something more interesting. This is the warmest spell of weather I have ever witnessed in this country—for near two weeks past the temperature has been 100° and upwards at the heat of the day: the ultimate at this point (Bestside) has been 107° in the shade or 130° in the sunshine where the outdoors laborer shared it. At Smithville, some twenty miles north of this point, the heat has been as great as 112° Fah. in the shade—really I cannot write anything interesting under such circumstances. Could you Messrs. Editors?

When I left St. Louis this spring I came down to Potosi, stopping at Victoria, De Soto and Mineral Point on the I. M. Railroad. This road seems to be driving a fine business. The little town of De Soto is quite a flourishing village for the time it has been in existence. At Potosi I took private conveyance for this point traversing the counties of Washington, Iron, Reynolds, Carter, Oregon and Ripley in Missouri, and Randolph, Lawrence and a portion of this (Independence), in Arkansas, making a journey from your city to this point, of 265 miles, 134 miles of which, beginning at Potosi, was through the most dreary pine wilderness it has ever been my lot to travel, with but few settlers and they in a fair way to starve for all I could see, for there was not soil enough throughout that whole route, in sight of the road, if put in one field, to make, with a good season, &c. sufficient meadow for one man's summer's mowing. God pity the natives as it is in this drought!

Again, I left this point in July and traveled N. E. through Lawrence and Randolph counties in this State, and Ripley, Butler, Wayne, Bowlinger and Cape Girardeau counties in Mo. and Alexander, Union, Jackson, Perry and Washington counties in Illinois; and in returning I came through Stoddard county in Mo. in addition to those mentioned above, making a journey of about 630 miles, traversing a good portion of

S. E. Mo. and the most of Southern and the Southern portion of Central Illinois, embracing the greater part of the months of July and August. Now, the object principally had in view, when I sat down to write this letter, was to give you something of an idea of the crop prospects in the districts traversed in these journeys, which I will now proceed to do as impartially as I can:

Corn—Beginning in this region in the upland, there is less than half a crop; in the valleys of the large streams, half to three-quarters of a crop; and, as we proceed north, the valleys hold out some better than the upland, which gradually diminishes in quantity till we reach the State line at Pitman's Ferry on Courant river, near which we may count that the crop in the upland has entirely failed, and the crop in the "bottom" land is so cut down as to hardly be one-fourth the usual quantity. This is the state of things in all S. E. Mo. so far as I traveled, until I reached the waters of Whitewater river in east side of Bowlinger county, where the scene gradually changed and the crop was tolerably fair. In Alexander, Union and Jackson counties, in fact in all the timbered portion of Southern Ill. the corn crop is remarkably fine, rather above the average, but in the great prairie regions as far as I have traveled and as far as I could hear from, the same fatal drought has done its work, scarcely leaving an equivalent to the seed planted in some instances.

Oats—Almost an entire failure over the whole region traversed, excepting one single instance in Bowlinger county, in Mo. Mr. E. Myers living on the military road, planted the large white oats, having purchased his seed in the North, and the result was an excellent crop.

Wheat and other Grain—Of these I gathered but few items, but, so far as I could learn, the crop is generally about half or two-thirds of a crop of wheat—of other grain and grass I saw no appearance of any having been sown until I reached Cape Girardeau county, Mo., here the mowing was very fine; and where it had been sown, there was a tolerably fair crop of Barley. In Southern Illinois the wheat is generally tolerably fair and the grass very good.

Fruit—The crop in this line is principally peaches, with a few apples, and sometimes a pear tree, and they all seedlings with the fewest exceptions, so that at least there could not be much of a crop expected. The result, was, however—beginning in this region—a very full crop of peaches, but owing to the drought they were unusually small. This crop, like the corn, though from a different cause, gradually diminished as I proceeded northward, until with the exception of a few of the most favorable situations it entirely gave out before I crossed the line between this State and Mo. Thence North I saw no more peaches and but few apples or pears until I crossed the Mississippi river in Southern Illinois; especially near Jonesboro the peach crop was remarkably fine—I saw one specimen, a seedling from the Nectar or Blood peach, which weighed 8 ounces, measuring 10½ inches in circumference. I also measured a specimen of the

Buckingham apple at Jonesboro, whose greatest diameter was 4½ inches, average diameter about 4¼ inches. The fruit crop generally of Southern Illinois so far as I could learn was tolerably fair.

Chinese Sugar Cane—Of this I have noticed but little, it is just being harvested, therefore I can say but little in reference to the yield. I think, however, the average will be something over 100 gallons of syrup per acre—even this is a paying crop.

Cotton—Of course this product extends but little north of this. The yield will be somewhat below the average owing to the excessive drought, but the lint will be fine and very white and the crop is maturing unusually early, so that planters who are industrious will be able to get their crops out before cold weather sets in.

Upon the whole I do not think there is as much room for croaking as some would seem to represent. The fact is, the most of our misfortunes are traceable to our own negligence and improvidence instead of the dispensations of Divine Providence. Deeming the subject of this letter sufficient apology for its length, I will only add my title, "The Public's Servant,"

Mc.

ACCIDENTS FROM THRESHING MACHINES.—It is asserted in an exchange that thirty men have been killed or wounded for life by threshing machines in Indiana during the present season. This is a fearful list of casualties, if true, which in most instances have resulted from carelessness on the part of the persons injured, or from culpable disregard on the part of the builders of the machine in not properly securing the teeth and cylinder, so as to prevent the one from flying out or the other from bursting asunder while swiftly running.

We allude to these facts by way of cautioning those who run threshing machines to see that the spikes or teeth are each securely fastened in either with nuts or screws on the inside or by clinching, and also that the staves of which the cylinder is made do not become shrunken and the bands on the ends become loose. The least shrinkage in any of the parts, or loosening of the teeth, will most assuredly lead sooner or later to an accident, and a machine that is not in every part properly firm and secure should never be run until it has undergone a thorough repair. A little care in these respects may save some valuable lives, and many tedious hours of pain and suffering, besides great loss in time and money in surgeons' bills, &c. There is frequently great carelessness on the part of manufacturers in working unseasoned materials in the manufacture of these machines. In making haste to be rich they turn off their work, caring only for the money, when, as in the instances of death and suffering here recorded their threshing machines prove mere engines of destruction to those who use them.

On account of their greater safety, in case of the flying out of a tooth, or of the bursting of a cylinder, we greatly prefer that kind of threshers made upon the *over-shot* principle.

[Written for the Valley Farmer.]

Blandy's Six Horse Farm Engine on Wheels**The Blandy Engine among the Farmers.**

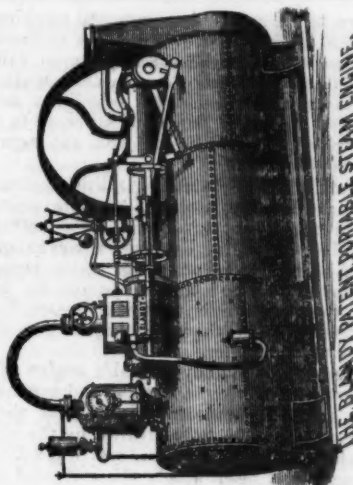
The steam engine is identified with all the great undertakings of man, above a purely pastoral life. From whatever point we regard it, its importance assumes colossal proportions. The vast intellectual resources of the last century have been unsparingly bestowed on its improvement and perfection, in adapting it to the various ends demanded by a rapidly advancing civilization in both hemispheres. As now employed for ocean, river and land transportation, little seems to be lacking to regard it as perfect. It is continually adapting to new forms of industry, and overstepping the limits of the select class of engineers, to whom its operation has been hitherto confined. It is now forcing its way among the people, to do drudgery hitherto so laboriously performed by human muscles, horse and cattle power. That it should in the limit of a single lifetime, from comparative rarity, become an agent to plow our fields, harvest our crops and prepare them for market and economical consumption, cut lumber just where the timber grows, &c., are achievements surpassingly wonderful.

No form of the Moveable or Portable Steam Engine seems to us more perfect in all respects than that of Messrs. H. and F. Blandy, so beautifully illustrated in this issue of the *Valley Farmer*.

The first illustration represents the *Blandy Portable Steam Engine for Farmers' Use*, mounted on wheels of its own, and used for threshing grain, ginning cotton, grinding cane, apples, and other purposes requiring frequent removals.

The second illustration is of the *Blandy Moveable Steam Engine*, used for sawing lumber, grist mills, factories, elevating water, driving printing presses, &c. and to those acquainted with the separate parts of the steam engine will be readily understood.

The Blandy Steam Engine is peculiar in its arrangements throughout, boiler, bed plate, and mode of combining them into a strong, symmetrical and harmonious whole. The boiler is nearly cylindrical throughout its length, with ample furnace inside; with strictly cylindrical crown, large open grate surface, and entirely surrounded by water space.



The body is occupied with tubes, largely increasing the heating surface, and binding the flue shuts strongly together. The larger sizes receiving into their furnaces common cord wood, and all sizes burning wood, coal or coke, equally well.

The patented, and most striking single feature of the Blandy Engine is the bed plate, which is a cast iron pipe or column—the form combining the greatest strength with the least weight of metal—weighing for a 20 horse power engine 320 pounds only—having on one side seats for its own attachment to other permanent seats on the boiler, and which are never necessarily removed, the separate surfaces being planed and united by bolts. On another side are seats and faces for the attachment of all the working parts of a steam engine!! One end of the pipe bed plate is closed by one of the plumber blocks of the main shaft; the other by a cover with projecting nozzle, through which the cold supply water passes into the interior, where it is heated by the exhaust or escaping steam passing through the interior of the bed plate in its own separate pipe, on its way to the smoke stack, where it is used to fan the fire!!

In attaching the working parts to the bed plate, permanent studs and pins are used, and in taking down the separate parts, or the bed plate carrying the whole engine, everything must go back to its own proper place, and cannot be put in any other, as no liners, or as mechanics sometimes call them, *Dutchmen* are used, and not a bolt passing into the boiler sheets disturbed.

The Blandy bed plate is an extraordinary instance of mechanical ingenuity and utility, every part, inside or out, subserving some useful and indispensable end, while the whole bed plate serves to isolate the working parts from the boiler, that its contractions and expansions in passing from cold to any safe state, does not affect it to a degree that is measurable—less than the thirty-second of an inch. The stream of cold supply water passing through the bed plate serves to preserve that equal and lower temperature so

necessary to its safe and economical working. No motion of the boiler ever disturbs the relation between it and the working parts of the engine, nor the relation between the separate parts themselves; thus giving a solidity and permanency to them, equal in all respects to the separate boiler and engine, with the engine on timbers or masonry.

The *Blandy Steam Engine* has all the separate parts ever attached to any high pressure engine, globe throttle, with screw and lever valves; safety valve with spring balance; steam gauge; whistle; heater; governor; hot water pump, cold water, lifting and forcing pumps, &c. &c. Though the bed plate is used as a heater, it is not necessarily so, as the water may be pumped directly into the boiler.

We regard the *Blandy Portable engine* as a marvel of mechanical compactness and symmetry, and are not surprised to learn that their popularity and sale is only rivalled by the sewing machine. It has stood the test of practical experience; has been widely disseminated all over the continent; and applied to a great variety of purposes, with very satisfactory results. Perhaps its most brilliant success has been in sawing lumber with *Portable Circular Saw Mills*, the severest test ever applied to an engine. It obtained all the *first premiums* at the Ohio State fairs for 1857 and 1858, and two *first premiums* for 1859—one for a mounted engine for farm use; the other an extra, special and only premium for *Saw Mill Engine*—in both cases silver medals and \$20. The patent on the engine was issued August 3, 1858, to Messrs. H. and F. J. L. Blandy, of Zanesville, Ohio, and parties desiring further information are requested to correspond with them, and in another part of our paper will be found an advertisement, to which we refer all our readers. * *

A VALUABLE PAINT.—For the information of all those who are wishing to obtain a cheap and valuable paint for their buildings, I would say, take common clay (the same that our common bricks are made of), dry, pulverize, and run it through a sieve, and mix with linseed oil. You then have a first-rate fire-proof paint, of a delicate drab color. Put on as thick as practicable. If any one has doubts with regard to the above, just try it on a small scale—paint a shingle and let it dry. Recollect that it must be mixed thicker than common paint.

The clay, when first dug, will soon dry; spread it in the air, under shelter; or if wanted immediately, it may be dried in a kettle over a fire. When dry, it will be in lumps, and can be pulverized by placing an iron kettle a few inches in the ground, containing the clay, and pounding it with the end of a billet of hard wood, three inches in diameter, three feet long, the lower end to be a little rounded. Then sift it.

Any clay will make paint, but the colors may differ, which can easily be ascertained by trying them on a small scale as above indicated. By burning the clay slightly, you will get a light red, and the greater the heat you subject it to, the brighter or deeper the red.—[*Country Gentleman*.]

CROPS IN THE EAST.

EDS. VALLEY FARMER:—Since leaving you three weeks ago, I have traveled more than a thousand miles through regions of country unsurpassed in any part of the world for productiveness and beauty. The prairies of Illinois, the rich lands of Indiana, Ohio, Pennsylvania and New York, are certainly as productive as any land in the world, and are quite beautiful; while eastern New York, Vermont, New Hampshire and Massachusetts abound in scenery and landscapes of rare beauty, and under their high tillage are very productive. The change from the flat surface of the West, to the undulations of Ohio and New York and the hills of New England is very refreshing to the traveler. And I felt it peculiarly so as I left our region parched by a severe drought, and found in the North and East one green and growing in abundant rains. The whole range of the Northern and Middle States have had a season of abundance, and now that the fruit is maturing and the corn waving in ripening glory, and the fields green in autumnal freshness, presents one grand stretch of rural beauty and plenty such as is rarely witnessed. The amount of corn produced is perfectly astonishing. It appears to the traveler that there are whole townships, counties and states of corn. No country has ever witnessed anything like it. And yet a few years more of active industry in the West will far surpass the present crop. Fruit is abundant wherever the ruralist has planted trees. I have never seen such a yield of apples and pears. The country will be abundantly supplied, and already I learn the work of shipping to the West Indies has commenced. In some parts of New England there is a real zeal for fruit raising. This year I find Massachusetts abundantly supplied with apples and pears, quinces and some peaches. This indicates both East and West an improving taste, an advancing civilization. Cultivated man will cultivate his fields and orchards and develop their finest qualities and productive powers. It is pleasing to know that our fruits are adapted to such a variety of soil and climate. Apples, pears, plums, quinces, cherries, with most of the small fruits, seem determined to grow almost everywhere. I often fancy the future of our country when every farm and garden shall yield its rich variety of fruits, and every man shall literally "sit under his own vine and fig tree."

I am not in favor of "manias," but I should be glad to see a fruit mania all over the world, especially in every part of our country. Let the trees be put out, "thick and fast and many of them;" let them be well cared for; and America will outdo old England and France in the abundance and richness of her fruits. *

Paper Mill Village, N. H. Sept. 12, 1860.

The laborer who wastes his strength in working all day with a dull saw, because he cannot give a shilling or afford half an hour to get it sharpened, will waste at least twenty-five cents per day, or six or seven dollars per month

LETTER FROM OREGON, ILL.

EDS. VALLEY FARMER: Straws show which way the wind blows, and on some occasions even many lighter things are resorted to, to know and ascertain the current of air. It is a common thing during a dead calm on the ocean, for the master of a sail craft to walk the deck of his vessel, whistle in imitation of the wind, wet his finger and elevate it, and finally order a little feather on a staff to be elevated, to find the slightest appearance which indicates a breeze, or a gale. So there are a good many *small* things, insignificant and unobserved, which if the farmer will but heed and notice, will help him in his undertaking, viz: profitably and successfully to till the earth.

In cutting my Timothy the present season, I observed that in many places the heads were larger and the general growth stronger and riper; and in looking for a cause, I found that the little ground squirrel, here called striped gopher, had dug down pretty deep, and brought to the surface a goodly quantity of sub-soil (the surface is a strong, sandy loam, the sub-soil a strong, yellow clay), and I am well satisfied that the mixture had brought about the result—namely, a larger and stronger grass and earlier maturity. I reason now, and let every reader judge for himself, that when next I plow this land I should plow deeper than I did before, at least for wheat and grasses, and I doubt not but our corn would be benefitted also. The plowing should be done in autumn so that the frost might have its action on the soil.

This last season, in the month of March, a tenant of mine broke up a piece of pasture land (Timothy and clover) which ought to have been turned over last fall. It was sown to spring-wheat, notwithstanding I urged him to plant it to corn which would have been the crop. The result is, even this year of universal plenty, only a partial crop, not over fifteen bushels per acre; berry good.

Our corn is the best crop we have had in three years; and from what I can learn is even so through all northern Illinois and Wisconsin, and is with us at this present writing (Sept. 3d.) out of the way of frost. Early planted potatoes are good both as to quality and quantity, and I have heard of no complaint as to disease; late potatoes must now of necessity be a light crop for want of seasonable rain. Water is scarce, and I know of farmers who have driven stock to water two miles for weeks. Rock river at Oregon is very low. Stock hogs are scarce in our country and throughout this northern region, and the quantity of pork made for market will not at all compare with previous years, for one reason more than any other, namely, the failure of last years' corn crop. OLD FIRKIN.

Oregon, Ill. Sept. 3, 1860.

A cow bought for ten dollars, whose milk but just pays her keeping, affords less profit than one at thirty dollars, giving double the value of milk afforded by the former.

NEW STEAM CARRIAGE.

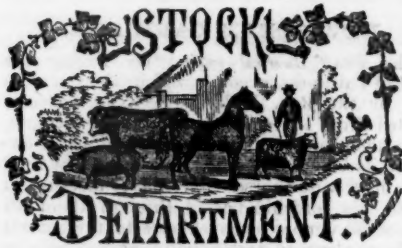
The *Banff Journal* says: "On Friday the Earl of Caithness, accompanied by the Countess and by the Rev. William Ross, of Kintore, started from Inverness in his steam carriage, built under his own direction; and though, owing to its being the market day there, the road was filled with horses and conveyances of all kinds, his lordship passed through them all without any more inconvenience to the general traffic or alarm to horses than if he had been in his carriage and four. So perfectly had he the whole moving power under his control that he stopped more quickly than an ordinary carriage could draw up, and this he did as often as he saw the least danger of any horse being frightened.

He reached Beaulieu—a distance of fourteen miles—in an hour and twenty minutes, notwithstanding the frequent stoppages, and fifteen minutes lost in getting water. After leaving Beaulieu, on those parts of the road where some distance forward can be seen he attained the speed of eighteen miles an hour, and could have kept up this for any distance with ease and safety.

After reaching Allness his lordship turned to the left, and took the road direct for Bonar bridge. Here the carriage had a severe test applied to it, but he drove it up the hills without difficulty, and coming down the very steep declivity near where the road joins the road from Tain, the control his lordship had over it was most satisfactory, and enabled him to descend at any rate he wished, and with perfect ease and safety. Leaving the hospitable inn at Ardgry, Lord Caithness crossed Bonar bridge, and drove on to Clashmore, after a successful drive of nearly seventy miles.

Saturday being very wet, he remained there till the afternoon, and then drove on to Golspie to remain over Sunday, and having perfect confidence in his carriage from its working on Friday, he expects to reach Barogill castle, a distance of over eighty miles, and over the steepest roads in Scotland. His lordship has made this somewhat bold step of applying steam as a propelling power to carriages on common roads for any long distance, and the result of the first day has more than answered the expectations of its warmest promoters, and left no doubt as to its being not only practicable but useful, when so applied. The carriage was made by Mr. T. Reckitt, Castle Foundry, Buckingham, and is a beautiful piece of work."

CHEAP FENCES.—The following is a cheap fence. It has the advantage of taking up but little room, as the rails are laid nearly straight. It is made as follows: Take your rails and place stones near where the rails lap—then drive two stakes, five feet or more long, one on each side, and lay up your rails until the third one—then take wire and fasten the stakes together—then lay up your rails to the desired height, and fasten wire across the top of the stakes close to the upper rails, and your fence is complete, making a large saving of land.



STOCK AT THE ST. LOUIS FAIR.

One of the great features of our Fair is the immense display of fine Stock that is always exhibited. Those interested in Stock should always be present as no description can do justice to the animals. As we have said in our Agricultural Department, the newspapers of the West have been filled with accounts of our Fair, and we shall give but a brief notice of this Department.

HORSES—There have never been finer horses exhibited than during the Fair just closed: there may have been more—but never better. It is the fine horses after all, more than almost any or all things else, that draw the people to the Fair. And this is the reason such large premiums are offered for horses. The object is to draw the best horses in the Union here, and that object has been accomplished and the people will come to witness the performances of these animals.

The celebrated "Ethan Allen" was here from New York, and bore away with him the Sweep-stake Premium of \$1,500, offered for the best Roadster Stallion in harness. This is quite an honor to the Black Hawk race of horses—he being of that blood. He is a square, fine trotter, bright bay color, medium size, and by his fine trotting and beautiful style richly merited so large a premium—though there was a score, nearly of competitors, and all most worthy animals.

The St. Louis Prize of \$1000 to be divided among the three best Roadster Stallions was awarded as follows:

Gen. Singleton, of Quincy, Ill. received on his fine Morgan Stallion, "Silver Heels," the First Premium of \$600. So far as style is concerned, this horse had no superior at the Fair—but he has so much mettle that he breaks badly, when put to a trial of speed with another horse.

The Second Premium of \$300 was awarded to R. H. Smith, of Illinois, on Ethan Allen, Jr.

The Third Premium to "Humboldt," owned by Kelly and Thomas, Nelson county, Ky.

But we might fill several pages with the awards—which would impart no instruction to any one.

CATTLE—There was a fine exhibition of Short Horn Cattle. Among the exhibitors were the following well known breeders: J. N. Brown, Geo. N. Bedford, R. C. Shackelford, James M. Hill, Jefferson Bridgeford, Stephen Henderson, Jacob Lee, John Pitman, Henry Larrimore, E. Sydnor, James Richardson, and scores of others.

DEVON CATTLE—C. D. Bent, of Iowa City, Iowa, was here with a part of his fine herd of Devons, and bore away the premiums offered on this Stock. He sold two of his fine Devon Cows and one Devon Bull to our friend, Dr. W. W. Henderson, of St. Louis co. He also sold another Devon Bull to G. H. Huntington, of Kirkwood, St. Louis county.

AYRSHIRE CATTLE—Brodie, Campbell & Co., of New York, took most of the premiums offered for this breed. It is well known for being fine milkers.

HEREFORD CATTLE—Thomas Aston, of Ohio, took the Premiums offered for this breed.

ALDERNEY CATTLE—Col. Buckmaster, of Alton, Ill. took the Premiums offered for this breed, and his animals were beautiful specimens of their kind.

BRAHMAN CATTLE—Chas. G. McHatton, of St. Louis county, the celebrated breeder of this Stock, of course took the *plate* offered for the best of this breed. Mr. McHatton has over one hundred head of this breed—some of them being crosses with other stock—and they are certainly beautiful animals and well worthy of being visited. They are remarkably intelligent, docile, have soft fine hair and skin, very hardy, making it is said good milkers, and excellent beef.

SWINE—The exhibition of Swine was superior to what it has heretofore been. The Messrs. Ruble, of Wisconsin, were here with their imported Suffolk Hogs and their progeny, and every one who saw them passed the highest eulogiums upon them. We have never before seen as fine Suffolks. Messrs. Lanham, Eads and Colman had fine hogs of the Chester White breed. Conrad Bornman, of Illinois, had his matchless Berkshires on hand. While Capt. A. Phillips, Dr. Stevens, Mr. Adams and many other exhibitors had crosses of some of the best breeds, and exhibited many fine animals.

CASHMERE GOATS—Richard Peters, of Atlanta,

Georgia, exhibited some of his Cashmere Goats which attracted much attention. Why don't some of our Missouri breeders take hold of this stock? There is money in it. All the animals that can be raised for a great many years will bring a high price, and the wool readily commands several dollars a pound in New York.

SHEEP—This Department was only tolerably represented. There were some good sheep on exhibition; but more interest should be taken hereafter in this part of the exhibition.

The show of Jacks and Jennets was large.

Development of the Teeth of Cattle, and Mode of Ascertaining their Age by the

The following useful information we copy from that excellent periodical, the *American Stock Journal*:

"Persons acquainted with the dentition of 'neat stock,' can form a pretty accurate idea of age, from the period of birth up to that of adult life; and this method of ascertaining the age of an animal, is, probably, more correct than that which applies to *horns*, for by means of a rasp applied to the rings of the horns, any amount of imposition may be practiced, when it is well known that the same liberties are not to be taken with the teeth, without the chance of discovery. It is possible that there may be some slight variations from the following rules, in the development of the teeth, yet such variations will not embrace a period of more than a month or six weeks, which at maturity does not amount to much, and may be considered as purely accidental—out of the ordinary course of nature. The front teeth or temporary incisors are found in the lower jaw; there are eight of them, all prominent at the age of four weeks. The calf is usually born with three temporary grinders or molars; the fourth appears six months after birth; the fifth appears at the age of fifteen months; and the sixth is to be seen at the age of two and a half years; now the animal has a 'full mouth' of temporary teeth, numbering thirty-two. At this period a very remarkable change in the teeth is about to occur; the temporary ones having answered the purposes for which they were intended, are to be removed in the following order, so as to give place to others which shall correspond to the increase in the size of the jaw bones, and prove as durable as other bones in the body. At the age of two years the central or middle incisors (lower jaw) are shed and replaced by two permanent ones. At the age of three years the two incisors known as the inner middle undergo the same process. At the age of four the outer middle are shed, and replaced by permanent teeth. At the age of five, the corner incisors are also transformed in the same manner, and the animal has a full set (eight) of permanent front teeth. The first and second permanent molars known as grinders,

appear in the upper and lower jaws on each side, at the age of two years, and at intervals of one year, the other four are successively cut; so that at the age of six years the animal has a full mouth of permanent grinders.

SWINE.—If not self evident, it is believed that a sufficient number of experiments have been made to establish the fact that swine are self-sustaining animals, and that pork is one of the cheapest meats raised upon a farm. The hog is a working animal, and if well supplied with sufficient material for the first ten months of his life, will produce a sufficient quantity of the best manure to be equivalent to his value, giving him two months to rest from his labors and grow fat. Generally at one year old is the best time to kill.

A word as to breeding. It is quite common to breed from young sows, say fall pigs, to come in with a litter of pigs when one year old, a practice to be utterly condemned, and if continued in the same family for a few generations of the swine, they will be found to dwindle down from three or four hundred hogs to two or three hundred. It is much better to keep the sow three or four years, or even much longer—they have been kept some fifteen years to advantage. The hog is some years in his natural state in maturing. It is a fact well known, at least to every Irishman from the "ould" country, that pigs from old sows will grow into hogs some thirty or forty pounds heavier than those from young ones.—[*Maine Farmer*.]

[Written for the Valley Farmer.]

THE PENDULUM CHURN.

A new churn, named as above, was exhibited at the late Fair of the St. Louis Agricultural and Mechanical Association. The inventor is Mr. Wm. Brown, of Allenton, Mo. It consists of a churn box about 26 inches long by 18 inches wide and 12 inches deep. It is suspended by pivots placed on a level with its upper edge at the centre of each side, and resting upon posts about 4 feet high. The posts are mortised into a horizontal frame, giving a base about 3 by 2 feet. To the centre of the bottom of the box is attached a pendulum rod and ball reaching nearly to the ground. By means of a small cord attached to the ball or weight, the pendulum is put in motion giving an oscillating movement to the box, and causing the cream to flow rapidly from end to end, passing through grates placed at the distance of about one-third the length of the box from each end.

The amount of labor required to operate this churn is a mere trifle. A child five years old could do a churning with ease, a slight pull at the cord as the pendulum swings towards the operator being sufficient to keep up the motion. It can easily be made with clock-work so as to be wound up and run of itself a sufficient length of time to do a churning.

It appears to us that this churn is a nearer approach to a combination of the desirable qualities for the purpose, than any which has

heretofore been presented. Butter exists in milk in the form of minute globules of oil, each contained in its own delicate envelop. These globules being lighter than the milk rise slowly to the surface, forming cream. When the envelopes of the oil globules are broken, the oily particles adhere forming butter. The object of the churn is to rupture the cream globules; and the one which will do this most perfectly, in the shortest period of time, with the least labor, is the best. The objection which exists against most churns is that the globules are struck by the dasher or paddles in such a manner as to allow them to resist the force of the blow by floating away, and the case has been illustrated by supposing a man engaged to crack five bushels of hickory nuts, placed in a heap, and the cracking to be done by striking on the pile with a stout paddle—the nuts represent so many globules of cream, the paddle in the man's hand represents the churn dasher; each blow may displace hundreds of nuts, may drive them downwards in the pile without cracking a single one. So with the cream, the first dozen strokes may not rupture a single globule.

It has been found by experiment, that if the globules are thrown in a jet, as from a syringe or similar instrument, with considerable force against any hard body, or even against the body of cream itself, the globules are ruptured much more rapidly than by the present process of churning.

In the Pendulum Churn the cream is not acted upon by a dasher or paddles, but is thrown with considerable force from one end to the other of the box, striking first the grates by which it is divided into separate streams, and then against the ends of the box. The same operation is favorable to gathering the butter into compact lumps, which may be favored by removing the grates. This churn is exceedingly simple in construction, and any part of it can be made by any ordinary mechanic. As there has been but one or two made, its construction will probably be somewhat improved. We think when the philosophy of its operation is understood, or it is put to the test of practice, it will be found a very valuable improvement as a labor-saving machine, and a very welcome one to the dairymaids. The patent is secured.

M.

SAW-DUST FOR STABLES. We know of no material better for bedding and litter for stables than saw-dust. It is not every person who keeps horses and cows, who raises grain and grows a home supply of straw for these purposes; and even where straw can be had, saw-dust is the best as an absorbent of the liquid portions of the manure, and it retains it in the best form for application to the land. Saw-dust is always fine, and readily decomposes. When perfectly saturated with urine, and incorporated with other portions of the manure, it becomes extremely rich in ammonia, affording a light fine manure applicable to any garden or farm crops. The

saw-dust, however, from some kinds of timber is superior to others, but as an absorbent all are valuable. On a stiff clay soil the mechanical improvement in its texture is another matter of scarcely less importance than the value of the compost as a manure. The value of such manure is also improved by incorporating with it after it is thrown from the stable, all the ashes made on the premises.

There are hundreds of saw mills throughout the country where saw-dust can be had for the labor of hauling, and millers generally are anxious to get rid of it. It is light and large loads of it can be hauled. Cattle or horses bedded with it are kept cleaner than when bedded with almost any other material.

CHESTER WHITE HOGS.

Mr. D. Cutts Nye, in the *Stock Register*, speaks very highly of this breed of swine. He says:

"Some persons have supposed that in order to have a superior breed the stock must be imported. Why cannot we originate as good stock in this country as in England, if we pay the same care and attention as is bestowed there? The Chester county hog originated in Chester county, Pa.—hence its name. The Chester is a hardy hog and is distinguished for large size (some of them when well fed attain to a weight of 600 to 700 lbs.), very rapid growth, early maturity, and great propensity to fatten; also remarkable for beauty and symmetry of form, and docile disposition, and are very quiet. With an equal amount of food, the Chesters will probably make more and better pork than any other breed of hogs—for facility of fattening they are unequalled. The Chester hog should be placed in the same category among swine, that the Morgan horse is among horses, and the Baldwin apple among apples."

Bela Dunbar, of North Chili, thus speaks of the Chesters, in the *Genesee Farmer*: "I notice an inquiry in relation to the Chester White Hogs. I reply: 1st The thorough-bred are peculiar for being always white; 2d—they are peculiar for being very quiet and peaceable, and 3d—they are peculiar for being in good condition for slaughtering at any time after being six weeks old. They are short legged, broad on the back, have short heads and noses; very quiet, easily fattened at any age, and have often weighed, at from 16 to 18 months old over 600 lbs."

FOR KICKING COWS.—Take a short strap and fasten the ends together. Next prepare a pin of some soft wood, about six or eight inches long, one and a half inches in diameter. Take the cow by the off fore leg, and double it at the knee joint close; pass the strap or loop over the knee, pressing it back until you can insert the pin between that and the knee joint, and she cannot kick.

Stable Management of Horses.

"The practical suggestions contained in the following article are worthy of the attention of all who have the care of horses. Give an animal the right feed, and take care of him as he should be, and he will seldom be unfit for work. How to do these, is told briefly in this article from the *Prairie Farmer*:"

'It is one thing to know how to use a horse, but it is another thing to know how to *take care of him*. A stabled horse needs special care and attention. His feeding must be as regular as the measurement of the hours. When a change of feed is made it must be done with great care—giving a small allowance at first, until the stomach becomes used to the change. He must be cleaned every day; and when we say *cleaned*, we mean all that can be conveyed by that word. A good curry-comb, brush and oiled woolen cloth, are the utensils necessary. First take the curry-comb and begin at the top of the neck, back of the ears, working the hands both ways. Proceed in this way till you have gone over the entire body and legs. Then take both comb and brush, and follow the comb with the brush, and after every other stroke, draw the brush across the teeth of the comb to clean it. An experienced groom will do this instantaneously. This done, take your cloth, and lay the coat, and remove the dust which adheres to the outside. The face and ears must also feel the brush.

Few men know how to clean a horse properly. If the above directions are followed daily, your horses will enjoy good health generally. Stabled horses must be exercised daily. This is absolutely essential to good health. If the feet of your horse are brittle, and are liable to break and crack, they must be well oiled once a week. A horse thus treated will always be ready to go when wanted, and you will not be ashamed either to ride or drive him.

Another thing quite as important is a clean and well ventilated stable. We cannot excuse any farmer or horse owner who does not clean his stables twice a day. A stable should be so constructed as to have a wide passage way or floor in front to feed from. Above the manger a space should be left a foot or two in width clear, and the passage way should be the avenue for the supply of fresh air to the nostrils of the horse.

A horse enjoys a good bed, and it should never be refused him. At night, take your fork and make it up light, and you will feel amply rewarded for the humane treatment you have given to your beast.

CURE FOR COLIC IN HORSES. — *Eds. Valley Farmer*: I know my method of cure will be laughed at—but I also know from several trials it is perfectly effectual. I have cured horses with the colic, after all other reputed remedies had been tried in vain. When the horse has the colic, put three or four thicknesses of blankets around his body—bed comforters will do—and pour water on to the blankets till they are thoroughly wet through. It will not be long before the horse will begin to smoke and sweat pro-

fusely, and, my word for it, the colic will leave him. A LOVER OF THE HORSE.
Lafayette Co., Mo.

THRUSH IN HORSES.

No disease is more common, and perhaps less understood than thrush in the feet of horses. This disease, by some, is not only called the cause, but the consequence of fever, contraction, sunken frog, lameness, rough, brittle and tender hoof, corns, canker and ulceration. In fact, it is caused by anything that interferes with the healthy structure and action of the frog.

All horses, of every age, and in almost all situations, are subject to thrush. This disease, unlike many others, may become chronic, or permanent in any stage or degree of development. Some authors claim to find it most frequently in the hind feet; but my experience is, it is most common, in Ohio, in the fore feet. If the hind feet are affected, it is generally soon communicated to the fetlock by fever, swelling, pustular eruptions, scratches, canker, and sometimes confounded with grease heel. But in the fore feet, the circulation being more active, and less exposed to irritation by the dung and urine, it becomes chronic in its first stages. Fevered feet may become contracted, and even permanently lame, without any falling or sloughing of the frog; or the frog may slough without much contraction; or, the frog may lose its sensitive nerve, and grow a fungus frog, and not be detected for a long time; and if lame, the shoulder is mostly considered the seat of lameness.

In some instances thrush affects the heel, so that the hoof does not grow down at the heel; in other instances, it excites an undue growth, and the heel becomes high, the foot too hollow, the frog looks sunken, and the heels contracted. Thrush often produces roughness of the upper surface of the hoof, inaction, and consequent stiffness of the nerve and falling of the muscles, and the horse is said to be foundered and sweened. Thrush may, and often does become ulcerous and gangrenous, producing a most offensive smell; the discharge is mostly confined to the region of the frog, and sometimes undermines the hoof, and swells and breaks at the top; when this is the case, the animal should be discharged from labor, and placed in charge of a skilful practitioner. In fact, there are few errors more common or more dangerous than that the existence of thrush is a matter of little consequence.

HOW TO CURE IT.

If your horse exhibits any of the symptoms of thrush, you cannot begin too soon or be too diligent to have him cured; it is a growing evil and may soon disable the horse. Where there are gangrenous symptoms, it will be best to begin with internal treatment. Cathartics, diuretics and alteratives should each have a course for one week; not drastic, but mild doses. See to it that each medicine has the desired effect. Apply to the foot, first: white vitriol, one part; blue vitriol, two parts; tar and lard, eight parts each; apply from four to six dressings, thoroughly, once a-day; then apply a poultice of tar,

linseed oil and molasses, equal parts, thickened with pulverized charcoal; apply one dressing a day for four or five days, washing clean each time; then bathe the affected part a few times with alcohol, one pint, and two ounces finely pulverized saltpetre; mix and shake well. Never suffer an application of ammonia or muriatic acid—it kills the frog.—[*W. P. in Ohio Farmer.*]

BUTTER-MAKING.

The philosophy of butter-making has long been studied, but it is very strange that certain phenomena, though easily accounted for on assumptions or facts universally admitted, have ever and do yet present difficulties which render the explanations, though the best we can give, still not quite satisfactory.

The fact that cream buried over night in a napkin in the earth will be butter in the morning, indicates the truth in the system proposed by the Frenchman in the article which we copy, and we think the way looks clear for a true explanation of the phenomena. We have heard the statement made on good authority that the butter globules in the cream have been entirely misapprehended, as to their structure and characteristics, which, if true, may lead to important improvements in our methods of butter-making:

NEW FRENCH SYSTEM.—“A French chemist has invented a new mode of making butter, by means of a filter instead of a churn, the apparatus being of the most simple character. The filter is a kind of bag, formed of white felt, or even sheeting. The bag should resemble in shape, a military fatigue cap, only being much longer than deep. From each of the two corners issues a porous string (a piece of ordinary wicking is the best), destined to furnish an outlet for the liquid parts of the cream about to be placed inside the bag, which should be suspended from two rigid stems, to hold the corners in place. The filter being filled with cream, the whey or thin milk will soon drip through the cloth, or pass out by means of the wick conductors. In the course of twenty-four or thirty hours, nothing but the cream will remain in the filter, and this will be as thick as the cheese known in Germany as “smear-case.” The process is now half completed. The solidified cream is taken out and placed in a strong linen sack, the aperture of which is closed with a bit of twine. The whole is placed in a broad trough, or on a table, and vigorously kneaded with the two hands. In a few moments the sound of a slight splashing, and the issue of water will indicate that the butter is made. There is no more to be done but to take out the contents of the sack and work out the butter-milk in the usual manner. Practical housekeepers will thoroughly appreciate the rapidity and economy of a process like this, which also has the advantage of insuring the purity of an article so abominably adulterated as the butter sold in cities is almost invariably.”

IMPORTANCE OF CLEAN MILKING.—Careful experiments show that the strippings, or last half pint of milk, drawn from the cow, contain more

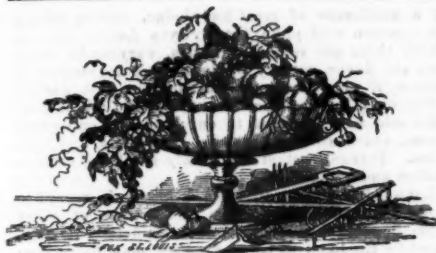
cream than a half gallon taken from the first of the same milking. In some experiments that have been made, the proportion was considerably greater.

ABOUT SHEEP.—A correspondent of the *New England Farmer* says: Sheep often become breachy from carelessness. It does require remarkably good fences to turn them. I have kept sheep for twenty years or more on land fenced almost entirely with stone walls, and find no difficulty in keeping them quiet and orderly. In the first place, select those that have not learned to jump; have all gaps properly repaired, and fasten the bars so that they cannot rub them down. As a rule, look at each flock once a day at least, and see that the fences are kept up, and give them enough to eat, and my experience is that sheep will not learn to jump. Sheep have long been a favorite stock with me, and for the last ten or twelve years Southdowns have been the sheep. I have found that 50 ewes well kept will raise generally 75 lambs; mine have frequently done better. The past year I raised 110 from 72, and part of the ewes were quite young, and the lambs dropped early. After they are two years old the ewes are very apt to bring twins, so that in some flocks twins seem to be the rule and single ones the exception.

LICE ON CALVES.—A correspondent of the *Genesee Farmer* says: I have discovered a method of ridding calves of lice. Give them flax seed. I am wintering eight calves; they became very lousy, and I fed them half a pint at a time for two days, and the oil from it drove the lice all off.

HOUSING CATTLE.—An English experimenter last autumn tied up four bullocks under a hovel, three in separate boxes, and kept seven loose in two yards, four in one and three in another, each having a hovel or shed to run under. The fourteen beasts were all alike in age, and were treated in the same way, namely: eight pounds of linseed cake each per day, three quarters of a bushel of mangel wurtzels, and hay or oat straw distributed equally to all. Those shut up in the boxes, and those tied up, were all ready for market first, and those fed in the yards placed them in the boxes, but when they came to be marketed, it was found that they were not ready by a month as early as those that were tied or fastened up.

THE COLESHILL BREED OF HOGS.—The *London Field* says: “At the Christmas Smithfield Club and Birmingham Shows there have been exhibited specimens of a first-rate class possessing those properties which are, in the estimation of the improvers of the breed, of the first importance—namely, free growers, and, at the same time, readily fattened. The Coleshill breed, as exhibited and improved by the Earl of Radnor on his Berkshire estate, which are wholly white, exhibit all those proportions that can be desired, while they possess the above-described qualities.”



HORTICULTURAL.

The American Pomological Society.

The American Pomological Society commenced its eighth session on the 11th of September, at the Assembly Rooms in Philadelphia, continuing three days. The number of delegates from the various States was larger than we have ever before met since the organization of the Society. The quantity and quality of fruit exhibited exceeded that of any former session. The fruit from the Western and Southern States was of a superior quality and exceedingly beautiful. The room was tastefully decorated with large specimens of rare plants in pots; and from these were suspended, on shields, the names of DUCHAMEL, VAN MONS, COXE, and DOWNING. Besides the leading varieties of fruit, such as apples, pears, plums, &c. there was a large collection of exotic as well as native grapes; among the latter were some of the finest clusters of the much praised Delaware, which proved the favorite variety among those who were permitted to test their relative qualities.

On Wednesday evening, on special invitation, the members were sumptuously entertained by Thomas P. James Esq. and lady at their residence.

Agreeably to the requirements of the Constitution, the session was opened by an address from the President, Col. Wilder. The President, be it remembered, is one of the most practical and intelligent fruit growers in the country, and his address contains so many valuable hints and suggestions that we do not know that we can offer our readers anything more valuable than some of the leading extracts from it. After paying a just tribute to the memory of Andrew H. Ernst, of Cincinnati, Ohio, and Benjamin V. French, of Dorchester, Massachusetts, former officers of the Society, and who have died since the last session, the President then took a retrospective glance at the progress of improvement, and particularly of pomology in the United States within the last three-quarters of a century,

alluding to the degree of perfection which has already been attained, and then spoke as follows upon the subject of the

CULTURE OF FRUIT TREES.

1. The healthful development of fruit trees, as of other living substances, depends on the regular reception of a certain quantity of appropriate food. This food, whether derived from the earth, air, water, or other natural elements, is conveyed through the medium of the atmosphere and the soil. While we have only an indirect and imperfect control of the atmosphere and other meteorological agents, the Great Arbiter of Nature has committed the soil directly to our care and treatment.

2. To this I may add the general sentiment in favor of thorough and perfect drainage, beneficial to all cultivators, but indispensable to fruit growers.

3. Not less uniform is the experience of the salutary effects of a proper preparation of the soil for fruit trees, both in the nursery and in the orchard.

These principles are settled in the minds of all intelligent fruit growers; but they need to be often promulgated and enforced. It should be equally well understood that success depends upon the adaptation of the habits of the tree to the constituents of the soil, the location, and aspect or exposure. A disregard of this principle, and the fickleness of seasons, are among the most common causes of failure not only among inexperienced cultivators, but among professed pomologists.

More attention should be given not only to the location, but especially the aspect of trees. A common error is to disregard the time of ripening. We plant our early fruits in the warmest and most genial locations. These should be assigned to our latest varieties. For instance, we, at the north, have too often placed our late fall and winter pears, like Easter Beurre or Beurre d'Arenberg, in northern aspects and exposed positions, where they are liable to injury by the gales and frosts of autumn, whereas we should have given them a southern aspect, and our most fertile soils to bring them to perfection. The most favorable locations are not so indispensable to our summer fruits, which mature early under the more direct rays of the sun, and in a much higher temperature. This rule may require modification and even reversion, to adapt it to the south or south-west portion of our country. And here I cannot refrain from expressing the earnest hope that our local catalogues may be framed with a wise reference to this principle, and that the day may not be distant when the Society's Catalogue shall designate the particular locality, aspect and soil, adapted to each variety of fruit.

But however important these considerations may be, the subsequent cultivation of trees must receive a passing notice, even at the risk of repeating some opinions of myself and others, which are already before the public.

The sentiments contained in the communication of Mr. J. J. Thomas, at our last session, against the growth of any other crop in orchards, especially against relying upon small circles dug around trees in grass ground, as a means of culture, deserves to be held in perpetual remembrance. Equally injurious, in my own opinion, is the habit of deep digging or plowing among fruit trees, thereby cutting off the roots, and destroying the fibrous feeders, which frequently extend beyond the sweep of the branches. However necessary the practice may be of cutting off roots, in old orchards, in the process of renovation, it should be carefully avoided in grounds properly prepared, and where the trees are in a healthy or bearing condition. From experiment and observation, I am persuaded that working the soil among fruit trees to the depth of more than three or four inches, should be carefully avoided. The surface should only be worked with a hoe, or scarifier, for the purpose of stirring the soil, and keeping out the weeds. Thus we avail our-

selves of the advantages of what, in farming, is called flat-culture, at present so popular. For the same reason, manure should not be dug in to any considerable depth, and some of our wisest cultivators now recommend its application on the surface. So favorably impressed with this practice is the Massachusetts Board of Agriculture, that it has ordered a series of experiments with cereal grains and other products, in the application of manures on the surface, as compared with specified depths beneath it.

The practice of surface manuring is no novelty of our day. An eminent cultivator of fruits, nearly two hundred years ago, said: "Manures should be applied to fruit trees in the autumn upon the surface, that the rains, snow and frosts may convey the elements of fertility to the roots;" and "that, by this method, one load will do more good than two used in the common way of trenching in to the depth of one foot." Other distinguished cultivators and scientific gentlemen recommend the same practice. Hence we are of opinion that our orchards and gardens should be manured in the autumn, and on the surface, so that the manures may be thoroughly decomposed, made soluble during the fall and winter, and suitable for the nourishment of the trees early in the spring.

In the history of this art, as of most others, it is wonderful how human opinions change. What were once considered as fundamental, are now rejected as unphilosophical or injurious, and those once rejected are now adopted as wise maxims. The doctrine has prevailed, from the time of Columella and Varro, that manures should not be exposed to the air, but should be incorporated with the soil as soon as laid out; whereas we have now the opinion of cultivators and chemists in favor of exposure to the air and other external agents of decomposition, and that it is not a source of nutrition to the plant until it is thoroughly decomposed. This opinion is certainly corroborated by the practice of skillful gardeners in all past time, who will never use green manure in the potting or cultivation of plants, and only that which has become old and fine.

NEW NATIVE FRUITS.

Changes of opinion have also taken place in regard to the acquisition of new sorts of fruits. Formerly we looked to other countries; now we rely more especially on our own seedlings for the best results. When we reflect upon the great number of new varieties, which have, in our time, been raised from seed, and the progress which has thereby been made, no apology need be offered for repeating what has been said in former addresses in commendation of this branch of Pomology. It was my first, so it shall be my continual and last advice:—"PLANT THE MOST MATURE AND PERFECT SEED OF THE MOST HARDY, VIGOROUS, AND VALUABLE VARIETIES; AND, AS A SHORTER PROCESS, ENSURING CERTAIN AND HAPPY RESULTS, CROSS OR HYBRIDIZE YOUR BEST FRUITS."

What wonders this art has already accomplished in the production of new and improved varieties in the vegetable kingdom! How much it has done for the potato, the turnip, and other vegetables—producing from a parent stock of inferior grade numberless varieties of great excellence! How it has brought forth from the hard, acrid and foxy grape of the woods, the delicious varieties that are now obtaining notoriety and extension; from the bitter almond, the luscious peach and nectarine; from the austere button-pear of the forest, the splendid varieties that command our admiration; from the sour crab, the magnificent apples which now constitute the dessert of our tables; from the wild raspberry and blackberry of the hedge, from the native strawberries of the pasture, those superb varieties which crown the tables at our exhibitions. We believe it is now admitted that our native varieties are more hardy, vigorous, productive, and free from disease than most foreign sorts. Thus we have seedling gooseberries free from mildew, and pears that never crack. Why can we not breed out the black wart from the plum? It has been suggested

by a gentleman of great knowledge, that by taking the common wild plum, the *PRUNUS AMERICANA*, of which there are several varieties, varying in color, size, and flavor, we may produce kinds not subject to disease, if judiciously crossed with our best garden sorts; or, if bred between themselves, we might, perhaps, add new varieties to our species of cultivated plums, which would be healthy, productive, and delicious. This suggestion is certainly worthy of consideration and experiment.

Let not this recommendation, however, in regard to cross-fertilization, discourage the sowing of other seeds, because they have not been artificially impregnated by the hand of man; for they may have been fertilized by the wind, or insects conveying the pollen of one variety to the style of another. In this way have been produced most of the sorts of American fruits. How extensive and inviting is the field here opened even to the most common fruit grower, who, practicing upon this principle through a series of years, can hardly fail to produce some good fruits, although he may be unacquainted with the higher and more delicate process of artificial impregnation. But infinitely superior and more promising is the sphere of enterprise which opens before the Scientific Pomologist. It is broad as the earth, free as the air, rich as the land of promise. In his hands are placed the means of continual progress without the numerous uncertainties which must ever attend accidental fertilization. He has the sure guide of science, which never misleads her votaries, but elevates them from one degree of excellence to another toward absolute perfection. By these processes, new varieties are multiplying with unparalleled rapidity throughout our country. We rejoice in the intense zeal which has been awakened in this pursuit. It augurs well for the future, whether prompted by the desire either of fortune or of fame. But the spirit of adventure, thus awakened, needs occasionally a little wholesome discipline, lest it foster an undue reliance on immature experience, and tend to quackery, imposition and fraud.

While we refrain from all personal reflections, we cannot forbear exhorting all, and especially the officers and members of this association, to increased vigilance and caution in the recommendation of novelties, until they have been thoroughly tested by competent judges. As it is human to err, so it is natural to be partial to one's own offspring and friends, and this partiality often sways the judgment of honest and good men.

But a more common and serious difficulty under which we labor is the promulgation of seedlings by individuals and associations that have not the information requisite to form an intelligent, and therefore reliable judgment. Another evil which increases with the mania for what is new and rare, is the exposure for sale, by flaming advertisements and speculating agents, of old varieties under new and specious names, varieties which, like Jonah's gourd, were known in their day and place, but have long been consigned to oblivion.

As in the past, so in the present and in the future, let it be our purpose and practice to reject those that are worthless, to withhold our approbation from those that are doubtful, and to encourage the multiplication of those only which are of decided and acknowledged worth. Thus shall we elevate the standard of judgment, and fulfill the mission providentially assigned us. We might enlarge on this and other topics, but the brief period which it is proper for me to occupy in this opening address, restricts me to one or two other considerations.

AFFINITIES.

I would here again recommend a more careful study of affinities between the stock and the graft. Whatever be the opinions in regard to the manner and degree of influence which the scion has upon the stock, or the reverse, the fact of that influence is undeniable. For example, we have seen certain varieties of the pear, as the Cross, Collins, and others, which would

not readily assimilate with the stock, however vigorous. We have, in many instances seen healthful trees sicken and eventually die, by the insertion of these uncongenial grafts. So great was the want of congeniality, that we have seen the stocks throw out successive crops of suckers, and although these were frequently removed, yet the scion would refuse to receive and elaborate the sap in sufficient quantity to nourish it, and the trees would finally die. In such instances, the only way to restore the health of the stock, is to remove the graft for a scion of its own or some other appropriate sort.

As I have formerly directed your attention to this topic, I have only space to embody a few general rules to guide practice.

In deciding upon affinity between the tree and graft, consider—

FIRST, The character of the woods to be united, as whether of fine or coarse texture, of slender or gross growth.

SECOND, The wood-buds, whether abundant or sparse, plump or lean, round or pointed.

THIRD, The seasons of maturity, whether early, medium or late.

These suggestions will suffice to indicate the direction of thought and the kind of investigation to be pursued. A better knowledge of the subject, will, no doubt, hereafter be attained, and will reveal some of the inexplicable mysteries which now attend this branch of fruit culture.

GRAPE CULTURE.

Let me for a moment call your attention to the cultivation of the grape. This is now assuming so much importance in our country that it seems entitled to special attention at this time. Its progress is indeed marvellous. Until within a few years it was supposed that Providence had assigned grape culture and the manufacture of wine to countries in the south of Europe, and that the soil and climate of America were not at all adapted to their production. Still later, the theory was promulgated, which has not as yet yielded to a more enlightened judgment, that no good grape could flourish on our eastern slope. Now it is known to succeed in almost every aspect where soil and cultivation are suitable, and it is believed that no country on earth is better adapted to the extensive cultivation of the grape than the United States of America. This branch of fruit culture is yet in its incipient state, but it has progressed so far as to authorize the belief that the grape can be grown with success in almost every State and Territory of the Union.

With the progress already made in raising new sorts, it is only a question of time when we shall have varieties adapted to almost every locality. Thousands of cultivators, scattered over our extended country, are each of them raising new varieties from seed in the expectation of success. While some of them may be valuable, many must, of necessity, be failures, having been originated from natural and accidental impregnation, without any settled or philosophical plan. The laws of reproduction in this department are the same as in other branches of the vegetable kingdom; for instance, in northern latitudes, the great object should be to produce good kinds which ripen early and are perfectly hardy. To procure these from the limited number of our native grapes, we must resort to the art of hybridisation, taking for the parents those sorts which contain the characteristics which we desire to combine.

This work has already been commenced in good earnest, and is progressing rapidly in the hands of many practitioners. Illustrations have occurred under our own observation, proving the immediate and happy results from the crossing of native with foreign grapes. A gentleman in my own vicinity has taken, as the mother parent, the *Vitis Labrusca*, a common native grape, and crossed these vines with the pollen of the Black Hamburg, and the White Chasselas grapes. Of forty-five seedlings, thirty-seven have borne fruit.

All progeny of these has proved perfectly hardy, and have stood without protection for several winters, where the Isabella and Diana have been much injured. Of the seedlings produced from impregnation of the Black Hamburg, most of them inherit, in a good degree, the color and characteristics of the male parent; while those fertilized with the White Chasselas, all were of a reddish color, intermediate between the natural colors of the parents. Thus we see the positive and powerful effect of the art of hybridization in the hands of scientific cultivators, who can, in a measure, control the process of reproduction, and render it subservient to their purpose.

But, to prevent discouragement and sustain perseverance, it should be remembered that, in conformity with the experience of Van Mons, Knight, and other pioneers, a seedling does not attain to perfection at once. To arrive at its culminating point of excellence, it must often be fruited for several years. Others maintain that a number of manipulations are requisite to bring a new variety to perfection. Some varieties attain this much earlier than others, and the same variety reaches it earlier or later in different localities. Hence an originator should not reject a seedling of some apparent good qualities simply because it may have some defect; for this may result from local or external influences. He should, therefore, cause it to be transferred for trial to a different soil and climate. Even grapes of acknowledged excellence are improved by this change. The Concord and Diana of Massachusetts, valuable as they are at home, acquire a superiority in the south and south-west unknown in their original locality, even rivaling the Catawba and Isabella of those sections.

It seems to be a general law of nature, illustrated in our forests and fields, that some trees and grains will flourish in nearly all localities and latitudes, while others are particularly restricted to certain districts. By this arrangement an all-wise Providence diffuses blessings over our country and clime. Each has its appropriate share in the general munificence of the Creator, together with luxuries peculiarly its own. The grape is common and almost universal; but the varieties of this fruit are mutable and local, capable of endless adaptation by human skill. Hence this field for the culture of the grape, upon the borders of which we have scarcely entered, is, to the intelligent cultivator, full of promise and reward.

While it was formerly supposed that the peculiar, and, to many, disagreeable aroma of our native grapes disqualified them for the production of choice fruits and wines, it has been proved, we think, beyond a reasonable doubt, that the characteristic designated, by way of contempt, as the fox or pole-cat flavor, will hereafter constitute one of the chief excellencies of our new varieties, when, by the art of hybridization and civilization, this flavor shall have been modified and changed by alliance with other grapes of excellence that are destitute of this quality. This flavor, thus improved, seems destined to form a distinctive characteristic of an important class of American grapes, even to give them a marked superiority over such varieties as the Black Hamburg, Sweetwater, and such other foreign sorts as are destitute of any especial aroma, and consist mainly of sugar and water. It may yet make our seedlings rivals of the Muscats, the Frontignacs, and other highly flavored foreign grapes of the Old World. Multitudes of seedlings, deriving their origin from our native vines in various stages of civilisation, and with a special view to this result, are now on probation in various parts of our country. From these must necessarily arise, in coming time, many sorts of superior quality.

What if the desire for new varieties has become a mania? What if it produce, here and there, personal sacrifices and disappointments? What if, from want of skill, or from adverse causes, many inferior or even worthless varieties are produced? The result is certain. The time fast approaches when the ultimate good will be realized, and when America will become

the great grape-growing and wine-producing country of the world.

I admit, in respect to all our fruits, that, as the number of varieties increases, more judicious and severe discrimination in the selection of very valuable, and in the rejection of comparatively inferior varieties, will be demanded. This is the lesson which past progress teaches us. What would the gardener of fifty years ago have said, if he had been told that his favorite Bon Chrétiens, Muscats and Blanquets, were soon to be thrown into the shade forever? He would have shown as much incredulity as some of our modern amateurs do when we talk of future progress. The Duchess d'Angouleme, the Beurre d'Anjou, Doyenne, Boussock, Beurre Superfin, Bartlett and Seckel, had not revealed to him the vast extent of improvement in fruits which was to be made. What was true in this respect fifty years ago, is equally applicable to present varieties. The impossible has no place in the history of progressive science, whether relating to natural arts or to mechanical industry.

The further proceedings of the Society, particularly the discussions on the various fruits, are matters of interest to those of our readers engaged in fruit growing, we shall therefore give the most valuable portions of these in our next number.

Cutting Back Trees when Transplanting.

A writer in the *Country Gentleman*, in reply to C. M. Clay and several others who very properly argue, that, in removing fruit trees from the nursery to the orchard, that the branches should be shortened in proportion to the loss the roots have sustained in digging, so as to produce a fair equilibrium between the remaining roots and branches, says:

"When a tree is cut back in branches as well as roots it has a double injury, requiring a double amount of activity in the agencies of growth, to repair. Sap being elaborated in the leaves only, and there being made fit to form growth, it follows that cutting off about half the buds curtails its means of reparation in that degree of these elements. Like an old tree that bears a large crop to perpetuate its species just before its end, the severely crippled young tree now puts forth its remaining power in the battle to save its life, and this accounts for 'a fine growth' the first season. The tree is now alive, but greatly exhausted. The course of nature is to direct its energies to the most vital object at any given time. * * * The life of a tree being out of immediate danger, the next thing nature attends to is to repair injuries, and the injuries of the balancing system being immense, the vital force of the tree is directed to them rather than in showing growth, for we could hardly expect replacement and repair to be going forward without retarding growth by addition, when the power of the tree to make sap has been so much reduced and restricted in lessening its leaves."

From the foregoing we are led to infer that the writer possesses but a very limited knowledge of vegetable physiology; and when we

know from long experience in the nursery business, and from extensive observation, that thousands of trees are annually lost throughout the country owing to the neglect of reducing the branches somewhere near the proportion to the loss that the roots have sustained in the act of removal from the nursery, we hardly feel willing to let the subject pass without some comment.

We will remark in the first place, that many of our Western nurserymen are altogether too reckless in taking up trees from the nursery, destroying often more than one-half of the roots of the trees because it is easier to cut them off than to dig them up. If the public would refuse altogether to buy such trees the evil would, in some degree, be remedied. But with all the precaution in taking up trees more or less of the fibers and rootlets will necessarily be destroyed, and even many of those that are taken up without injury, are so fine and tender that a little exposure to the drying atmosphere will cut off for a considerable distance all vitality, and hence before the growth of the tree can be established new fibers must be formed. When a young and healthy tree is removed from the nursery to the orchard with the usual loss of a large proportion of its roots—the very mouths through which life is sustained—and with its top left entire, the vital forces stored up in its branches are sufficient to push every bud of the entire top into leaf. With this amount of foliage expanded there is an immense loss sustained in evaporation from the leaves, and there being little or no supply of sap from the mutilated roots for circulation through the trunk and branches, the tree must linger until new rootlets are formed to supply the loss by evaporation, and to add material for the formation of new leaves and branches. If the disproportion between the loss and supply, or between the top and the roots, be too great, or if dry weather follows in early spring, the tree is quite liable to die. By reference to the numerous experiments of Hales, made for the purpose of testing the amount of moisture thrown off, daily, from the leaves of a growing tree, it will be evident that where there is a great disproportion between the top and the roots of a tree but little growth can be made until an equilibrium is established. Now, suppose, instead of setting a tree with its top entire, as it grew in the nursery, all surplus branches be removed and the remaining ones be shortened to two or three buds of the previous season's growth, the current of sap, limited in its supply, will be concentrated in the remaining buds and branches, giving a force and producing a growth that could

not possibly be produced had the top remained entire with the natural loss by evaporation from all the leaves. The reference made by the writer to "an old tree that bears a large crop to perpetuate its species just before its end," is not a case to the point. In that instance there is a contest between the wood producing and the fruit producing forces. While the tree is exhausting its energies in producing fruit it makes but little wood and consequently but little root, and hence the equilibrium between the top and roots remains undisturbed. A tree cannot produce roots without a vigorous growth of leaves and branches, and to produce these it is necessary to reduce the top to an equal balance with the roots; then the flow of sap will be confined to a less number of channels of circulation, the circulation will be more vigorous, and in these branches a greater growth of wood will be produced, with a corresponding supply of root, and hence the damage will the more speedily be repaired.

A contract was made last year to furnish a number of large Elm trees for the Central Park, in New York. The contractor was to have \$30 each for all the trees that lived, he was to do the planting. The trees were set with their tops entire, and when we visited the Park in July two-thirds of the trees were then dead, with a prospect of more going the same way. The present season, on visiting the Park we see the trees nearly all replaced by other trees, of the same kind, with their tops shortened to a proper proportion, and all or nearly all are vigorous and flourishing, although the present season has been extremely dry, while the previous one was wet and favorable for newly planted trees.

In transplanting cabbages, strawberry plants, if not in spring, and other summer plants, we always cut off all the leaves except one or two in the centre with such beneficial results as will convince any one, who will make the trial, of the full benefits of all we say on the subject of pruning trees.

BUDDING FROM WOOD OF THE PREVIOUS SEASON'S GROWTH.—It frequently occurs in a dry season that a considerable portion of the trees budded fail to take, or, if the bud unites, they are more or less liable to be killed during a severe winter. In nursery culture it is very desirable to have the rows filled entire. Stocks of apples and pears that fail when budded may be easily grafted in the following spring; but, for stone fruit, grafting is not so well. In order to

meet cases of this kind our practice has been to cut in the fall or winter a sufficient number of suitable branches of the various kinds of fruit we wished to re-bud and preserve them as we do grafts until the approach of warm weather, when they are put into a tin box and placed in the ice-house, in close contact with the ice, where they are ready for budding at any convenient time during spring after a free flow of sap takes place in the stocks. Buds set in this way will start and make a growth nearly equal to those set in the previous budding season. It is well to secure the wood for this purpose before the severe weather sets in and injures the buds. It is the young wood, most liable to injury, that is most suitable for this purpose.

Floral Hall at the St. Louis Fair.

BY A LOOKER ON.

The Great St. Louis Fair of 1860, being not only a success, but the most brilliant of all that have yet been held, the Horticultural Department must, we suppose, be considered a success also.

The display of fruits was small, comparatively, (not a tenth part, we should judge, being on exhibition that were at the United States Fair, at Cincinnati, the week before), but the quality was excellent. The apples, pears and peaches were monstrous in size, and gorgeous in their richness of coloring and freshness of perfume. The grapes were unusually large, well colored and fine. But Floral Hall is not large enough, at least the passage-ways are not, which were perfectly jammed from morning till night, all the week, by persons really desirous of seeing the flowers and fruits, but could not. We hope the Directors will alter this another year, by devoting the present Hall entirely to fruits, and erecting a spacious, appropriate structure for flowers.

Mr. Kern's monument to Ceres was here again, which, though fine in itself, was out of place among the devotees of Flora and Pomona, though his rustic, romantic, rock work, or sylvan scenery, with its ancient, moss-grown rocks, lofty pines and dripping waters, had its usual pretty effect, especially on unsophisticated young ladies from the mountain districts, who, of course, were best able to judge and to tell how *natural* it all looked.

The collection of greenhouse plants was not large, Mr. Krausnick being the largest exhibitor, i.e., if size of plants are considered, for he had some very large and very old plants, of no particular beauty, such as Big Aloes, Sago Palms, Cannas, Ficus Australis, &c. His groups made fine banks or masses of green foliage, but the flowers were not there. His plants were not *grown*, but kept from year to year, with the aid of a little water and a temperature above freezing. There was none of the thumbing and pinching to produce the rotundity of form and symmetry, and the sudden blaze of bloom that *grown* specimens require—they were simply old tub plants.

Mr. Byer, made a large group of very small,

but tall plants, which in the aggregate had a very pretty effect (as they were well in bloom), but which if taken and examined singly were very poor specimens, and would not quite pass muster at a Chiswick, or even Philadelphia or Cincinnati show.

Mr. Michel had but few pot plants—his great role being cut flowers and bouquets, in which he particularly excels.

From Carew Sanders & Co., of the St. Louis Nursery, came a collection of plants, quite a number of them new and rare, and exhibited for the first time in St. Louis, while of those that were more common, the plants were tolerably well grown and handsome specimens, with some regard to symmetry, and of a dwarf, bushy habit, &c., though they were comparatively small, for single specimen plants, yet a step in the right direction, however, and a decided improvement on the long-legged fellows.

The new variegated and showy-leaved kinds being of most interest, we will name a few from this collection, so that those who know plants, may judge somewhat of their newness and value. They had five species of *Caladium*, a family of water plants, with most beautiful, variegated foliage, kinds as follows: *Calidium Bicolor*, *C. Pictum*, *C. Violacea*, *C. Hemostigma* and *C. Distillatorium*. Three new *Begonias*, viz: *B. Rex*, *B. Mad. Wagner*, *B. Argentea Splendida*, all plants of gorgeous beauty in foliage. They had also the new and beautiful *Farfugium Grande*, *Croton Variegatum*, *Diffenbachia Picta*, *Orontium Japonicum*, *Crotolaria Picta*, *Cyrtocercus Reflexus*, *Formeum Tenax*, and many others equally choice and rare.

Owing to the long continued drought, the display of cut flowers was rather meagre in quantity and poor in quality, especially that glorious autumnal king, the *Dahlia*. Some of the above exhibitors figured largely in cut flowers. Below is the list of awards:

CUT FLOWERS.

Floral Designs, natural flowers, 3 entries—First premium, \$20 to J. W. Michel, St. Louis.

Large Vase or Basket of Natural Flowers, 3 entries—First premium, \$10, to J. W. Michel.

Suspended Vase or Basket, 3 entries—First premium, Medal, to Mrs. Geo. W. Stansbury, St. Louis.

Large round Table Boquet, 2 feet high, 2 entries—First premium, \$5, to Miss Annie Michel.

Round hand bouquets, 6 entries—First premium, \$5 to Anton Eckart, St. Louis. Second, medal, to Miss Annie Michel.

Cut Flowers, best and handsomest collection, 2 entries—First premium, \$10, to J. W. Michel; second entry not on the ground.

Roses, 24 varieties, named—First premium, \$10, to A. Eckart.

Roses, 12 varieties, named—First premium, \$5, to Chas. Bayer.

Dahlias, display—First premium, \$10, J. W. Michel.

Dahlias, 24 varieties—First premium, \$5 to J. W. Michel.

Dahlias, 12 varieties—First premium, J. W. Michel. Second Premium to C. Sanders & Co.

Best and Largest Collection of Hardy and Per-

ennial Flowers, named—First premium, \$5, J. W. Michel.

GREENHOUSE PLANTS IN POTS.

Twelve Varieties, with Large Showy Leaves—First premium, Carew Sanders & Co.

Twelve Varieties, Showy, Variegated Leaves—First premium, \$10, Carew Sanders & Co.

Twelve Varieties in Bloom—First premium, \$10, Carew Sanders & Co.

Six Varieties in Bloom—First premium, \$10, Carew Sanders & Co.

Three Varieties in Bloom—First premium, \$5, to same.

Three Varieties for Ornamenting Vases—First premium, \$10, to same.

Six Varieties Running Plants in Bloom—First premium, \$10, J. W. Michel.

Six Varieties Running Plants not in Bloom—First premium, \$5, Carew Sanders & Co.

Petunias (4 Varieties) First prem. \$5, C. Byr.

Geraniums—Six Varieties—First premium, Carew Sanders & Co.

Carnations—Three Varieties, monthly, named—First premium, \$5, to same.

Phloxes—First premium, \$5, to same.

Fuchsias—First premium, \$5, to same.

Most Tastefully Arranged Group of Rare Greenhouse Plants—First premium, \$20, Chas. Byr.

Greenhouse Plants, Largest and Best Collection—First premium, \$50, Edw. Krausnick.

Private premium, \$80, by James E. Yeatman, for most complete and most tastefully arranged Collection of Greenhouse Plants, to E. Krausnick.

Floral design of dried flowers—First premium, Mrs. George Stansbury.

Wreath—First premium to Miss Didie Ewing, St. Louis. The two last named articles were not provided for in the premium list.

FRUITS.

Fruit—Best collection by one exhibitor, first premium, \$25, Husman & Manwaring, Herman.

Apples—Summer, Fall and Winter—First premium, \$10, Belt & Priest, St. Louis; 2d, \$5, L. D. Bissell, St. Louis.

Autumn Pears—First Premium, \$5, for best plate, Husman & Manwaring; 2d, medal, D. M. Pierson, Rochester, N. Y.

Best Collection Autumn Pears—First premium Ellwanger & Barry, Rochester, N. Y.

Winter Pears—First premium, \$5, James Spencer, Carondelet; 2d, medal, Husman & Manwaring.

A fine basket of pound pears, exhibited by Mrs. Stansbury, were worthy of commendation, but no premium was offered.

Pears, collection by one exhibitor—First premium, \$20, to Ellwanger & Barry.

Peaches—varieties—First premium, \$10, Mrs. Elizabeth Ingleman, St. Clair county, Illinois; 2d, medal, to J. Sappington, St. Louis.

Seedling Peaches—First Premium, \$10, to J. H. Sale.

Best three varieties of Plums—First premium, \$5, to Ellwanger & Barry.

Plums—First premium, \$5, to same.

Quinces—First premium to A. W. Blakesley, Quincy, Illinois; Second premium, H. W. Williams, St. Louis.

Best Sample of Grapes from Vineyards—First premium, \$20, to Wm. Poeschell, Herman; second to Husman and Manwaring.

Best six bunches Grapes—First premium, \$15, to Wm. Poeschell; second to Husman & Manwaring.

Best Collection of Grapes—First premium, \$20, to Husman & Manwaring.

Private premium, by Wm. L. Ewing, to the choicest and fullest collection of fruits by one exhibitor, \$100; awarded to Husman and Manwaring.

Private premium, \$15, by proprietors of Planters' House, for best collection of fruit raised in Missouri—to Husman and Manwaring. Private premium, \$10, by same, for best 10 pounds grapes—to same.

To the St. Louis Vine Growing Co.:—By their Secretary, Mr. C. H. Haven, the Awarding Committee desire to testify their marked approval of the fruit design of a handsome column supporting a basket of the company's fruits, and representing those of the State generally; also, for the important exhibition of boxes containing growing vines, with the soils and rocky debris of the highlands around them, the same being from the lands upon which the association are laying out their fruit park of one thousand acres. Wm. L. Ewing, Supt.; Dr. B. F. Edwards, Dr. C. W. Spalding, W. Allen.

At what Age should Trees be Planted?

EDS. VALLEY FARMER:—Being about to plant an orchard of apple trees, will you please give me your advice in regard to the most suitable age at which the trees should be planted. * *

Washington Co., Indiana, Oct. 1860.

In reply to our correspondent's inquiry, we will remark that a very mistaken idea prevails among inexperienced persons in regard to the age and size of trees most suitable for transplanting. Some considerate persons, the first thing after the purchase of a farm, make arrangements for planting an orchard; others will, perhaps, cultivate a farm for ten years before they can find time to prepare the ground and set out a fruit tree; but, all at once, after seeing the fine fruit enjoyed by a neighbor, they determine on planting an orchard and proceed to buy trees, and want those that will certainly bear as early as "next year," and hence they choose the largest trees the nurseryman can furnish. Others will select from the nursery the refuse stock of over-grown trees and plant them in preference to young and vigorous trees, because they can be purchased for a cent or two a tree less, whereas if they were given to them they would be dear in the end.

Peach trees should always be planted, if possible, when but one year old from the bud, and never planted when more than two years old. We have thrown away thousands of trees after

they have reached this age rather than sell them. Apple trees, if well grown, may be planted at two years from the bud or graft, and seldom are they desirable beyond three years of age. Peach trees at one year, and apple trees at two years old have moderate size tops, roots in proportion. The roots can be taken up comparatively perfect, and if the tops, at the time of transplanting, are shortened, as they should be, in proportion to the injury the roots have received in their removal from the nursery, they will sustain but little check from being transplanted; "provided, always," that they receive proper subsequent care and cultivation.

In removing old, over-grown nursery trees, they have large, unwieldy tops, which are unduly acted on by the winds, while the roots, which have extended in proportion to the size of the tops, are one-half or more destroyed in digging them from the nursery. Such trees are dear at any price, and are only fit for the brush heap. Judicious nurserymen always manage to dispose of their surplus stock, at a suitable age, at reduced prices, rather than allow it to encumber their grounds. Such trees, if planted at proper age, and suitably cared for, will make much better trees, and will bear sooner than if allowed to become overgrown in the nursery before being transplanted.

Meramec Horticultural Society.

DOZIER'S STATION, P. R. R. October 4, 1860.

The twenty-second monthly meeting of the Meramec Horticultural Society, was held in the house of Mr. Parker Airey, Mr. A. W. McPherson, the President, in the chair.

The minutes of the former meeting were read and adopted.

In answer to a question, the Chairman of the Committee on the Farmers' Convention stated that he had received responses from several county societies, in every instance of a highly favorable character. Some societies had already appointed delegates to the Convention. Several country newspapers had published the Circular, and almost all of the city papers; and some of the newspapers had given favorable editorial notices of the movement, and many of the most enterprising agriculturists expressed their warm approbation of the objects in view. Whereupon, it was, on motion,

Resolved, That the Committee is further instructed to issue a call for a Farmers' Convention, in furtherance of the objects set forth in the former Circular, said Convention to be called on the first Thursday after the meeting of the Legislature, and to make such arrangements as may be found necessary in carrying out the objects contemplated.

The following reports were presented:

The Fruit Committee has lately visited the Nursery of Carew Sanders & Co. and deem it of sufficient interest to the members of this Society and others to warrant us in saying that we were highly pleased with its appearance and condition.

The large stock of apple, peach and pear trees now ready for sale, are as fine, vigorous and thrifty as could be desired. Their stock of small fruits is very

large, and contains the choicest varieties. The whole work of the Nursery, as far as we could observe, is thoroughly, carefully, and competently done. Their success during the past season of extreme drought with apple seedlings, strawberry plants, etc. has been remarkable. Mr. Sanders attributes it, very justly no doubt, to under-draining, sub-soiling, and frequent stirring of the ground. L. D. MORSE, Chairman.

The Flower Committee report a bouquet from Mrs. J. S. Seymour, composed of three varieties Verbena, two varieties of Petunia, Ageratum Americana, Tassel-flower, Tajetes, two varieties Dianthus, Mignonette, Veronica, Coreopsis, and Rudbeckia.

WM. MUIR, Chairman.

The Vegetable Committee report, presented by T. R. Allen, the following varieties of potatoes—all fine specimens from the late crop—to-wit: Early Canadian, Peach Blow, Neshannock and English Flake; also, fine specimens of the Nausemond Sweet Potato and White Strap Leaf Turnip.

T. R. ALLEN, Chairman.

Mr. Allen further stated, in answer to question, that the Early Canadian was an excellent early as well as late potato; was very productive; and matured the quickest, and was the best of five or six varieties planted by him at the same time; got the seed from Canada. The Nausemond is the best of all the many varieties of sweet potato grown here: is in good eating condition in all stages of its growth; got the plants from Cincinnati.

The Report of the Fair Committee was then received, read and adopted, and it was, on motion,
Resolved, To draw upon the Treasurer for the amount necessary to pay up the Fair expenses.

On motion, the meeting adjourned for dinner.

The afternoon session was opened by taking up the subject of the day, "Under-draining and sub-soil plowing."

Mr. Allen, upon call, said: My experience in this is very limited. Last spring I under-drained a piece of ground that was, in wet seasons, so wet it could not be plowed, and in good seasons was very late in getting into condition. The season was so dry I could have but little opportunity to judge of its effects. Another year will probably give a better chance of testing its merits. But I have no doubt that if we only cultivated the half of the ground we do, and had that under-drained and deeply plowed, we would actually have a large increase upon our present crops.

Dr. Morse said that he had paid considerable attention to this experiment of Mr. Allen's. He had planted out some rhubarb, gooseberries, currants, and other things upon land that was better than that of Mr. Allen's, and the plants of the same kinds in Mr. Allen's land had done much better than his. This he attributed to the greater depth to which the roots of the plants went, and were consequently not so much affected by the very dry season. The chemical and theoretical benefits of under-draining and deep plowing had been largely treated of. What we now want in every locality is the actual experiments and results. It was these evidences, alone, that would reach the great mass of the agricultural mind.

Mr. L. D. Votaw had some experience in under-draining and sub-soil plowing. He had a piece of land on which he wished last year to try sub-soil plowing. He got two plows made, cut a deep and wide slice with one plow, and followed it by another cutting about four inches wide and ten inches deep, but not throwing up the sub-soil—only stirring it to the depth of fourteen inches. There was a piece of the same field, under the same conditions, plowed at the same time with an ordinary Peoria plow. This piece was plowed deeply, but with the single plow, and the whole sown at the same time in winter wheat; the severe winter and hard summer came, and all the wheat in these districts suffered severely. On the piece that was sub-soiled there was taken eighteen bushels per acre, and on the other piece was taken four bushels per acre; and while the crop was growing the line be-

tween the two plowings was as distinctly marked as could be. In regard to draining, I put in a drain through the field to lead off some water. In filling the drain, the ground settled from five to eight inches, and still the wheat on the line of the drain was taller than the rest of the field, the heads were larger and better, and the whole plant so much improved, as to be visible at a considerable distance.

The President said: I agree with all that has been said about the benefits of under-draining and sub-soil plowing. In my ground where the young nursery trees stand, I plowed with a common plow, and followed with a regular sub-soil plow to the depth of fourteen inches. These young trees have made a most astonishing growth, so much so that Mr. Richter expressed his surprise at such fine trees. Mr. Husman also spoke highly of them. They are two year old trees, and some of them have side branches three to four feet long, and the stems an inch and a quarter thick; and these results are, in my opinion, solely attributable to sub-soil plowing before I planted out the nursery.

Mr. Mobley, of Laclede county, had used the Peeler plow to the best effect. The fact of having two shares gives a great depth of furrow; while by the forward share cutting the soil, and the other following deeply in the same furrow opens up the ground to the depth of twelve inches with as much ease as used to be done with a single plow; and in cutting the next slice, the forward share throws the top soil on the former furrow, leaving all the weeds and other surplus matter at a central depth of the plowed surface.

The President had conversed, at the St. Louis Fair, with Mr. Tobey, of the firm of Tobey & Anderson, Peoria, when Mr. T. indicated his willingness to make plows in any pattern, or with any improvement that the farmer might suggest, and thought that the sub-soil plows could be manufactured at even a lower rate than formerly.

The Executive Committee recommended "Fall and Winter Plowing" as the subject for next meeting.

The President announced the next meeting to be held at the house of Mr. J. S. Seymour, at Eureka, on the first Thursday of November.

On Motion, the meeting adjourned.

WM. MUIR, Secretary.

THE KIRTLAND RASPBERRY.—George W. Campbell, who has had experience with this Raspberry three years, writes to the *Country Gentleman* as follows: I find it a very strong, vigorous grower, a most profuse bearer, and the fruit of good size, and to my taste, of excellent quality. In color, a deep rich red, and of sufficient firmness to bear carriage well. In flavor, it seems a pleasant mingling of the rich sweetness of the best of the Antwerps, with just enough of the taste of the wild raspberry to redeem it from a suspicion of insipidity. Tastes differ; but the Kirtland is to me pleasanter in flavor than even Brinckle's Orange. But its great excellence, in my view, is its perfect hardiness. It requires no protection from the severest weather in winter, and last year it endured uninjured our terrible "5th of June frost," which destroyed the fruit of the Lawton blackberry, and every other raspberry on my premises, including the wild native. At the time of the frost above mentioned, raspberries were setting their fruit, and were filled with bloom and half grown berries. The Hudson River Antwerp, Brinckle's Orange, Fastolff, Franconia, Allen, and all others in the same situation and exposure, were entirely destroyed, while the "Kirtland" bore an abundant and beautiful crop.

Canada Thistles in Missouri!!

THE SEEDS IMPORTED WITH EASTERN FRUIT TREES.
A WARNING TO FRUIT GROWERS.

EDS. VALLEY FARMER:—On a recent visit to Jefferson City, in passing along one of the streets, I came direct upon a bunch or rather several bunches of this most fearful and intolerable pest of the earth, the Canada Thistle. Had I met the most fearful and deadly snakes or vipers, I should not have been more startled. I hope you will call your readers' attention to this alarming fact, in hopes that some friend of his race, at least Missourians, living near Jefferson City, will volunteer to extirpate them. Is there no farmer near that city upon whom you can call to save himself and brother farmers from this pest? Should it spread, it will certainly depreciate the farms in that vicinity at least 20 per cent. I am willing to contribute liberally towards its extermination. Let some one get an Irishman with his spade and make thorough work of it by digging the entire ground (some 8 feet square) up thoroughly, and carefully follow up and take out every particle of root; and if afterwards any should sprout up let the ground be carefully and thoroughly mixed with salt—say a sack full—so no vegetation can possibly grow, and that will certainly kill them. They can be found about 50 or 60 yards below the Governor's mansion, between the gutter and main road on same side of road as the mansion. Any one who knows any of the thistle family can easily find them, the leaves being finer and very luxuriant; light green color. These specimens have been run over which has prevented them running up to seed. There are some half dozen roots, and were undoubtedly imported from the East in some shrubbery I saw in the mansion grounds. I have heard of these seeds disseminated in some parts of the West, by Eastern nurserymen using for packing, straw among which it had grown; and circumstances indicate this as the means in this instance. There is the shrubbery in the yard, and of course no one would buy shrubbery in Missouri to put in the Governor's yard, even if it was better and much more likely to live. If no Canada thistles ever get on my place until the seed is brought with Eastern trees, which some itinerant tree peddler has imposed on me, I shall be safe. I hope every one who sees this article in this State will watch out for this pest, and report wherever found; and should any of our Jefferson City farmers get after these, I want to hear from them. I want to know of their utter and complete extermination.

Boonville, Mo.

H. L. BROWN.

Bullitt or Taylor Grape.

EDS. VALLEY FARMER:—Yesterday the *Valley Farmer* came to hand, and one of the first articles that came under my observation was from our mutual friend, the Hon. J. G. Taylor, wherein it became necessary for him to reply to a communication of some one in reference to changing the name of a grape from Bullitt to Taylor.

Now I wish to exonerate him from any such attempt; it seemed as though his consent was reluctantly given, even when his friends wished to bestow the honor upon him. Let that sin, if it be one (and I wish I had never done a greater), rest upon me and not upon the innocent.

I did it out of a desire to avoid confusion, as we have a number of Bullitt varieties of grapes, and also on the principle of "Honor to whom honor is due," that in my catalogue it appeared as Bullitt or Taylor. Now it has been brought before the proper authorities, I do hope they will do it justice. Judge Taylor deserves the thanks of the nation for his liberality and energy in giving this noble fruit to the public, in sending it out broadcast, as it were, to the world, without any remuneration; such an act of disinterestedness is rarely witnessed. I am not given to filthy lucre overmuch, I think; but if that grape had been under my control, as it was under friend Taylor's, I rather think the nurserymen's pockets would have bled a little ere it became so generally disseminated.

To give you some idea of its success here in Pa., I would state that it has every good trait that a grape needs, except that it might be larger, yet it is fully as large, if not larger, than the Delaware, about which there is such an excitement. I consider the Taylor quite equal in quality to the Delaware, and am not ashamed to predict, that in five years hence there will be ten Taylor vines planted for one Delaware. This will startle some of the advocates of the Delaware, but if this be published, they can refer to it five years hereafter and see what my prophecy is worth.

Grapes in our section have had a hard road to travel: excessive wet in spring, tremendous hail in June, followed by seven weeks dry weather, have made a poor thing of them. Concord and Clinton seem however to defy all these vicissitudes, and have borne a good crop. Many of the new ones that have been brought out under great names will, I fear, prove unworthy of cultivation. Yours truly, S. MILLER.

Calmdale, Lebanon Co., Pa. Sep. 17th, 1860.

ROSE INSECTS.—If our lady readers are desirous of keeping their rose-bushes free from the small green vermin that so frequently infest them, the following remedy will be found a most effectual one: To three gallons of water, add one peck of soot and one quart of unslacked lime. Stir it well—let it stand for twenty-four hours, and when the soot rises to the surface, skim it off. Use a syringe for applying it.

LAYING OUT ORCHARDS.

We have found the setting of trees in orchards so that they would stand exactly in rows both ways a more difficult problem than deflecting a regular curve for a railroad line between two tangents, or any of the ordinary operations of civil engineering. After trying various modes of ranging we have finally discovered that the simple method of measuring is not only by far the most rapid, but also the most accurate of any plan that we have ever tried. Since we adopted this method, we have set two and a half acres in small peach trees with such precision that no tree in the orchard stood out from the line to the extent of its semi-diameter, that is to say, to the extent of half an inch, and we do not believe that we expended one-quarter the time in getting the trees in line than is ordinarily bestowed in the system of ranging. For such accuracy the measurements must of course be made with great exactness, and this can only be done by means of a rod and small pins.

The best thing for a rod is a cane fish-pole, though a slender white pine sapling is nearly as good, cut green and seasoned under cover if there is time; if not selected from among the dead trees found standing in the woods. The essential points are to have the rod straight and stiff, with one end small in order that it may be light. Cut the rod of a length corresponding to the distance apart which it is desired to place the trees, and provide a basket full of straight pins about ten inches long, cut from twigs about $\frac{1}{4}$ of an inch in diameter. Now draw a line of stout twine the whole length of the field along one side, at the proper distance from the fence for the first row of trees, and measure along the line, inserting a pin into the ground at each space. For this measuring two persons are required, one of whom holds the butt end of the rod exactly at the middle of the last pin inserted, and the other puts a new pin into the earth at the small end of the rod. Measure entirely around the field in this way, and if necessary move the last two lines until the measurement comes correctly at the place of beginning. Then draw the line and measure across the field successively for each row, putting in a pin for each tree. The person who inserts the pins should place himself first at right angles to the line to be sure to get the pin opposite to the end of the rod, and he should then stand astride of the line and move the pin if necessary to get it perpendicular, with one side just in contact with the line.

The holes should be dug all on one side, for instance the east side of the pins, in order to leave the pins in place for use in setting the trees. This is easily done by placing the first pin at the beginning along the line twenty-one inches further from the edge of the field than it is desired to have the trees, which of course operates to place the pins in a corresponding position. Let the nearer edge of the hole be six inches from the pin and this will bring the middle of the hole, if it is $2\frac{1}{2}$ feet square, twenty-one inches from the pin. Provide a small straight rod twenty one inches in length, and in setting

the trees measure with this rod from the pin, to find the place in the hole for the tree.

The opposite angles of the orchard must be equal, that is, the orchard must be either rectangular or rhomboidal, in order to have the measurements meet at the place of beginning. If it is desired to have the rows at right angles to each other, and no compass or goniometer is at hand, a right angle may be laid off by measuring eight feet on one line, and six feet on the cross line, and moving the latter till the hypotenuse measures ten feet. Or, better still, by constructing an isosceles triangle. Stretch the base line both sides of the corner pin and measure along it each way ten feet marking the points. Then from these two points lay two poles of equal length, say fifteen or twenty feet long, with their opposite ends together, and set a pin at the angle; this pin will be at right angles to the base line starting from the corner.

In stretching the line, secure one end by driving the stake to which it is attached into the ground, and taking hold of the opposite end, pull it about as hard as the twine will bear, at the same time whipping the line up and down, and when it is brought straight secure the end which you hold by pressing its stake also into the earth. Stones or clods should be placed upon the lines at intervals, to hold it in place during the process of measuring. This method of laying out an orchard may seem to be troublesome, but in practice it will be found to save labor in comparison with the most careless plan, if any attempt whatever was made to have the trees in rows both ways; and it affords a constant source of satisfaction in observing the mathematical straightness of the rows, not only those at right angles, but also those that are formed in every possible diagonal direction.—[*Scientific American*.]

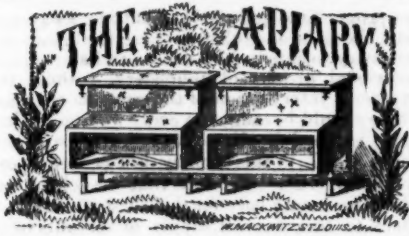
TO KEEP CIDER SWEET.—*Mr. Editor:*—Many no doubt would be glad to know how to keep it perfectly sweet any length of time. I have made that discovery and take great pleasure in making it known to them through your valuable paper.

I procured a flat bottom boiler, placed some thin boards at the bottom to keep the hot iron from breaking the glass bottles; I filled the bottles with sweet cider just from the press, up to the neck, and then filled the boiler with cold water.

I then brought the water to a boil, and as soon as the cider swelled so as to run over the mouth of the bottles, I took them out and poured out enough to make room for the cork, drove it in, and sealed it with rosin. I take particular care that the cider is not heated so as to injure its flavor. I have some which was put up in 1856 which is as sweet as when put up and almost clear. Since then I have put up cider in demi-johns and stone jugs, which make them equal to glass. Cider preserved in this way is preferred by most of our visitors at our dinner table to our best domestic wines. If you deem the above information of sufficient importance you can use it as you like.

J. H. DEARING.

Tuscaloosa, Ala. July 26, 1860.



HINTS FOR THE MONTH.

BY J. W. QUINBY.

Bees, previously well cared for, do not require much attention this month. If, however, anything has been neglected that should have been done last month, let it now be attended to. Honey, intended to be strained, if allowed to stand in the comb, at this season, is liable to candy and become hard, making the process very difficult. Unfilled honey boxes should be carefully put away, and in such a manner that the mice cannot get into them. Should some of them contain two or three pounds of honey, but too little to fit them for market, they may be kept over for another season, when the bees will fill them in proportionably less time than empty boxes. And, besides, the bees will commence work where there is plenty of comb much sooner than in other cases. I may say here, with respect to preparing combs for straining, that the best pieces are often quite fit for the table; but, as it is sometimes difficult to avoid bee-bread, where one would be sure, let him select pieces composed of drone cells, as these rarely, if filled at all, contain anything but pure honey. Strained honey will sometimes become very hard in cold weather, and when designed for home consumption, should be diluted with a little water, when put away in the fall—say, nearly half a pint to ten pounds. By taking pains to select the combs of white honey, straining and pouring into vessels, filling them to the height of an inch, and putting the honey away to harden without the addition of water, a very beautiful article for the table may be obtained. After becoming hard it will seem to have bleached, being sometimes almost as white as lard, and it may then be divided into squares of five or six inches diameter, and used as occasion requires. I have known such pieces so solid as to admit of packing in paper as one would a book, and of being carried thus put up, on a journey, without inconvenience. In warmer latitudes it would probably fail to harden to this degree.

I would also say a word about hives. It will do no harm to have them made and painted even in early winter. There is some reason to suppose that the bees do not like the smell of paint, and swarms put in hives to which it has just been applied, might be driven out by the rank odor. I cannot recommend the use of paints composed principally of lime, for bee-hives, for the reason that they seldom prove very serviceable—though, of course, almost any paint is preferable to none. He who uses good oil in good season probably does best. In large apiaries it is a good plan to use as many as three or four different colors, as a precaution against loss of queens. All swarms after the first, together with those old stocks that have cast swarms, are obliged to depend on a young queen.—Very soon after being instated at the head of a colony—probably on the first opportunity—she leaves the hive for the purpose of meeting the drone in the air. Now from what cause it occurs, may not be clear to all, but certain it is that on such occasions she is often lost. Observation has proved that these losses are most frequent where the hives in the apiary are most crowded, and of similar appearance. In a long row of hives of uniform shape and color, those at the ends escaped most frequently. Also, those which were

readily distinguished by any other marks, were more fortunate than those very similar to their neighbors.—The easy inference from these facts is, that the loss is in many cases due to the inability of the queen, on her return from her excursion, to distinguish her own from the hives standing near. To enable her the more readily to do this, I recommend painting with different colors. Any other means of varying the external appearance of the hives would be useful on the same principle. Loss of queens from this cause would be most effectually prevented, however, by placing the hives at a distance of four or five feet from each other—the farther the better. By these means young queens would not only be saved, but doubtless many bees.

As to the best shape for the box hive, perhaps the size fourteen inches high by twelve inches square on the inside, affords as good as any. Tall hives are objectionable on various accounts—high winds blow them over, the honey in them is more inaccessible to the bees in winter, and so forth. Also, that the workers are obliged to travel further from the entrance to the boxes when making surplus honey, and that the top may be too small to accommodate the requisite number of boxes in every case, are considerations worth bearing in mind.

St. JOHNSVILLE, 1860.

Honey Bees.

EDS. VALLEY FARMER: Having had several colonies of Honey Bees untouched for several years, for want of knowledge how to obtain the honey without destroying the bees, and for want of interest in them, I let them enjoy the fruits of their own labors, in company with the bee moth and cockroach.

At the great Fair of 1859, in Saint Louis, I met an old acquaintance, Mr. R. C. Otis, of Wis. with the Rev. L. L. Langstroth's Patent Hive. He explained the history and working of bees in connection with this hive, which infused such an interest in my mind in behalf of bee culture, that I purchased one of said Langstroth's Hives and Books at an expense of \$3.75. All the instructions needed, is obtained from the book. I went to work and transferred one colony. I was so well pleased with my success that I ordered one dozen more hives. I have saved every new swarm in ten minutes time, without cutting a limb, or destroying a bee—having now thirteen colonies, from five old ones. I have made this increase and sold over seventy dollars worth of choice honey, and have on hand quite a surplus, after using freely the whole season in a family of fourteen. I have two colonies that have made over eighty pounds of honey each this season, notwithstanding it has been a dry bad season for producing the material for bees to gather honey from.

I am satisfied that in two years time I can increase my stock of bees from the present stock sufficient to produce five hundred dollars worth of surplus honey; and, on the principal of doubling every year, in three years they would produce one thousand dollars worth, allowing the yield to be ten dollars each hive or forty pounds. It is the interest of every farmer to engage in bee culture, as the most profitable part of his business. In my judgment the Langstroth hive is by far the simplest and best in use. T. STEVENS.

Saint Louis Township, Aug. 20th, 1860.

TRANSPORTING BEES.—A correspondent of the "N. E. Farmer" gives the following directions for transporting bees:

"Spread down a sheet, and set the hive on it; then bring up the corners and tie over the top, or invert the hive, and put over the bottom a piece of muslin eighteen inches square, fastened at the corners with carpet tacks. A wagon with elliptical springs is best for conveying them. In all cases, the common box hive should be bottom up, to avoid breaking combs. When moved late in the season, they should be set several feet apart."



THE SCIENCE OF THE KITCHEN.

Archbishop Hughes has just taken up a wholly new subject, neither religious nor political, and his views on it are sound, practical and sensible. At the commencement of a seminary for young ladies, in New York, last week, he delivered an address, the institution being under his supervision. In this address he informed the young ladies that next year he was going to introduce a new branch of study into the institution. That branch is the science of cooking and house-keeping. All the girls over thirteen will spend a portion of their time in the kitchen taking practical lessons in all that is going on there. He also promises a prize of fifty dollars to the young lady of the school who will write the best essay, not more than five pages long, on this new branch of a young lady's education.

Fashionable boarding schools are not always the best places to obtain knowledge as to the performance of household duties. Young ladies who have one hour to the piano, another to the cooking range, another to French, another to pickling and preserving, and so on through the whole series of drawing-room and kitchen accomplishments, will be apt to have little more than a smattering of each. Bad French and bad cookery will be the result in many cases. But the idea of teaching cooking and house-keeping is a good one, and if Archbishop Hughes can have it properly put in practice, his institution will deserve the largest success. The system of education in many American schools for girls is false and injurious. Girls are often trained for fashion and frivolity; are taught to dance well, to play and sing tolerably, to read and speak French passably, and to dress elegantly. These are often the chief objects. When attained, they make graceful, self-possessed and talkative ornaments for a ball-room and prove charming companions for an evening. But when marriage comes and the serious business of life begins, the dancing, French and music are of little use, and the young wife has to begin a new education in the hard school of experience.

The new department of the kitchen and house-keeping, which the New York prelate proposes, is designed to correct the defect in our system of female education. We presume it will include not merely the art of preparing good things for the table; but also every other kind of household duties. For most experienced house-keepers will say that their table is not the greatest of their cares. There is the semi-annual cleaning;

the proper time and mode of putting away carpets, blankets, and other woollens; the knowledge necessary to supply from one's own hand certain occasional articles of upholstery, without the expensive intervention of the professional man. These should be taught to every woman. Then there is the difficult work of dealing with servants, which, in this country, is a housekeeper's continual trial. We fear that no school can educate a young lady for this kind of work. Is there to be a regular supply of servants of all kinds, good and bad, green and experienced, polite and rude, on whom the young ladies are to practice? It will not do to have them study house-keeping, without the cares and troubles arising from bad servants; for the most important part of their education will be neglected, and must be acquired after marriage, even though the lady should have had the first premium for cookery and house-keeping.

But, not to discourage this praiseworthy intention of supplying a want in our educational system, we hope that the happiest results may arise from Archbishop Hughes' efforts. There are cooking and house-keeping schools in England, of which the young ladies of noble families do not disdain to become pupils. If such institutions could be established in the chief cities of our country, they would make our women much more practical and useful than they generally are, and they would immeasurably increase the comfort and happiness of all American households.—[*Philada. Evening Bulletin*.]

NEVER TOO LATE TO LEARN.

Socrates at an extreme age, learned to play on musical instruments. This would look ridiculous for some of the rich old men in our city, especially if they should take it into their heads to thrum a guitar under a lady's window, which Socrates did not do, but only learned to play upon some instruments of his time—not a guitar—for the purpose of resisting the wear and tear of old age.

Cato, at eighty years of age, thought proper to learn the Greek language. Many of our young men, at thirty and forty, have forgotten even the alphabet of a language, the knowledge of which was necessary to enter college, and which was made a daily exercise through college. A fine comment upon their love of letters, truly.

Plutarch, when between seventy and eighty, commenced the study of Latin. Many of our young lawyers not thirty years of age think that *nisi prius, seire facias, &c.*, are English expressions; and if you tell them that a knowledge of Latin would make them appear a little more respectable in their profession, they will reply that they are *too old* to think of learning Latin.

Boccaccio was thirty-five years of age when he commenced his studies in polite literature. Yet he became one of the three great masters of the Tuscan dialect, Dante and Petrarch being the other two. There are many among us ten years younger than Boccaccio, who are dying of *ennui*, and regret that they were not educated to a taste for literature; but now they are *too old*.

Sir Henry Spelman neglected the sciences in

his youth, but commenced the study of them when he was between fifty and sixty years of age. After this he became a most learned antiquarian and lawyer. Our young men begin to think of laying their seniors on the shelf when they have reached sixty years of age. How different the present estimate put upon experience from that which characterized a certain period of the Grecian Republic, when a man was not allowed to open his mouth in caucusses or political meetings, who was under forty years of age.

Colbert, the famous French minister, at sixty years of age, returned to his Latin and law studies. How many of our college-learned men have ever looked into their classics since their graduation?

Ludovico, at the great age of one hundred and fifteen, wrote the memoirs of his own times. A singular exertion, noticed by Voltaire, who was himself one of the most remarkable instances of the progress of age in new studies.

Ogilby, the translator of Homer and Virgil, was unacquainted with Latin and Greek, till he was past fifty.

Franklin did not fully commence his philosophical pursuits till he had reached his fiftieth year. How many among us of thirty, forty and fifty, who read nothing but newspapers, for the want of a taste for natural philosophy! But they are *too old to learn!*

Accorso, a great lawyer, being asked why he began the study of law so late, answered, that indeed he began it late, but he should, therefore, master it the sooner. This agrees with our theory, that healthy old age gives a man the power to accomplish a difficult study in much less time than would be necessary to one of half his years.

Dryden, in his sixty-eighth year, commenced the translation of the Iliad; and his most pleasing productions were written in his old age.

We could go on and cite thousands of examples of men who commenced a new study and struck out into an entirely new pursuit, either for livelihood or amusement, at an advanced age. But every one familiar with the biography of distinguished men will recollect individual cases enough to convince him that none but the sick and indolent will ever say, *I am too old to study.*

TEN MODES OF SUICIDE.

1. Wearing thin shoes and cotton stockings on damp nights, and in cool, rainy weather. Wearing insufficient clothing, and especially upon the limbs and extremities.

2. Leading a life of enfeebling, stupid laziness, and keeping the mind in an unnatural state of excitement by reading trashy novels. Going to theatres, parties and balls in all sorts of weathers, and in the thinnest possible dress. Dancing till in a complete sweat, and then going home with insufficient over garments through the cold, damp air.

3. Sleeping on feather beds in seven-by-nine bed rooms, without ventilation at the top of the windows, and especially with two or three persons in the same small, unventilated bed room.

4. A surfeiting on hot and stimulating dinners. Eating in a hurry, without masticating the food, and eating hearty before going to bed every night, when the mind and body are exhausted by the toils of the day and by the excitement of the evening.

5. Beginning in childhood on tea and coffee, and going from one step to another, through chewing and smoking tobacco, and drinking intoxicating liquors. By personal abuse and physical and mental excesses of every kind.

6. Marrying in haste, and getting an uncongenial companion, and living the remainder of life in mental excitement. Cultivating jealousy and domestic broils and being always in mental ferment.

7. Keeping children quiet by giving paregoric and cordials, by teaching them to suck candy, and supplying them with nuts, raisins, and rich cake. When they are sick, by giving mercury, tartar emetic and arsenic under the mistaken notion that they are medicines and not irritant poisons.

8. Tempting the appetite with bitters and niceties when the stomach says No, and forcing food into it when nature does not demand, and even rejects it. Gormandizing between meals.

9. Keeping in a continual worry about something or nothing. Giving way to fits of anger.

10. Being irregular in all our habits of sleeping and eating. Going to bed at midnight and getting up at noon. Eating too much, too many kinds of food, and that which is too highly seasoned.

[Written for the Valley Farmer.]

OUR NATIVE CREEPERS.

Three principal varieties of our native creeping plants, that is, climbing by rootlets or suckers, are generally confused in the minds of the people, and all go by the name of Poison Oak. This mistake has contributed to cause the neglect of several highly ornamental creeping vines under the impression that they were poisonous. A brief description of the three varieties referred to, is here given, so that any common observer may readily know them:

RHUS TOXICODENDRON (*Poison Oak, Poison Ivy*)—Climbing by rootlets over rocks, &c., or ascending trees; leaflets three, rhombic-ovate, mostly pointed, and rather downy beneath, variously notched or cut lobed, or entire. Common in thickets. Flowers greenish white or yellowish. June. Poisonous to the touch to some persons.

AMPELOPSIS QUINQUEFOLIA (*Virginia Creeper*)—A common woody vine growing in low rich grounds, climbing extensively, the tendrils fixing themselves by dilated, sucker-like discs at their tips, blossoming in July, ripening its small blackish berries in October. Also called American Ivy. Leaves digitate, with five oblong lanceolate leaflets, turning bright crimson in autumn.

TECOMA RADICANS (*Trumpet Flower, Trumpet Creeper*)—Climbing by rootlets; leaves, pinnate; leaflets, from five to eleven, ovate, pointed, toothed; flowers, trumpet shaped, or tubular-funnel-form, from two to three inches long,

varying in color from bright orange to dark scarlet or crimson; quite showy.

The leaves of each of the three above described plants are of the compound character, having several leaflets connected to one main leaf-stem. The Poison Oak has three, and the Virginia Creeper five leaflets, connected to the main leaf stem nearly at one point. The Trumpet Flower has from five to eleven leaflets connected to the main stem on opposite sides at intervals of an inch or more, somewhat similar to the leaf of the Black Walnut. It is often seen running up large trees or high rocky cliffs, and makes a fine appearance with its dense green foliage and clusters of large showy flowers, which continue for about two months, principally in July. The long tapering seed pods, six or eight inches in length, may now be seen hanging conspicuously on the outside of the foliage.

The Trumpet Flower and the Virginia Creeper are among our finest varieties of ornamental creeping vines, and are cultivated at the North where they are not native or are less common. They should be planted so as to run up large trees, lattices, verandahs and the like. A little such ornamentation about the homestead costs but a mere trifle, and contributes vastly more than is generally imagined to make home happy, pleasant and attractive. Memories of the pure, beautiful and chaste connected with childhood's home are never effaced. M.

St. Louis Co., Mo., October, 1860.

THE DROUGHT AND THE RAIN.

BY WILLOUGHBY WEBB.

Farewell, life! my senses swim;
All without is growing dim;
Above, below, and all around,
In the sky and on the ground,
Dust is floating everywhere,
On the earth and in the air;
Perish we beneath the sun,
Wishing that the dearth was done.
Dust, the housewife's daily bread;
Dust, sad emblem of the dead—
E'en the rose's brilliant hue
Is covered with dusty dew.
Saith the preacher, "Mingle dust"—
Let us mingle as we must.
Nor canst dream of flowers in sweet repose,
But we smell the dust before the rose.

Welcome, life! my spirit thrives,
Rain returns and hope revives;
'Round me, 'bove me, everywhere,
Floats the balmy, fragrant air,
Comes the grateful, dashing showers,
With the breath of a million flowers.
No more heat and no more dearth,
Laughs with joy old Mother Earth.
Pattering rain drops on the pane,
Glittering on the thirsty leaves,
Dropping from a thousand eaves,
Flooding street, and field, and plain.
Welcome! O, thrice welcome, rain!
We will not mingle till we must—
For I smell the rose and not the dust!

Domestic Department.

THE WASHING FLUID CALLED "ECONOMY OF TIME."

—We have used it for two years in our family, and could not be induced to wash without it under any circumstances, as it saves both time and labor. The fluid is prepared in the following manner: Take one pound of sal soda, half a pound of unslacked lime; put in one gallon of rain water, let it boil twenty minutes, skim off the scum that rises, then set it away to cool and settle. Pour off all that is clear, and bottle. Whenever you wish to wash, gather your clothes the evening before, soak them over night, adding a very little weak lye to the water in which they are soaked. In the morning, wring them all out, rub soap on the wristbands and collars of the shirts, and all other articles that require it, sheets and pillow-slips excepted. Put as much water in your boiler as usual, and again add a small quantity of lye (lye saves soap); then put one tablespoonful of this fluid into the water, and put in the clothes. Let them boil half an hour, then take out and wash them thoroughly through one suds. If there are more clothes than can be put in one boiler, dip out some of the suds, and add cold water enough to make it lukewarm, adding half a spoonful of the fluid. After the clothes are all washed, put them into the boiler with clear water, let them come to a boil, then take out, and they are ready to be wrung and hung up. This suds does not injure calico, as many suppose, more than soft soap does. New calicoes and flannels should never be washed in anything but clear water, and hard soap, and dried where they do not freeze.—[Rural New Yorker.

SWEET APPLE PUDDING.—Take one pint of scalded milk, half a pint of Indian meal, a teaspoonful of salt, and six sweet apples cut into small pieces, will afford an excellent rich jelly. This is one of the most luxurious yet simple puddings made.

PLUM PUDDING.—One stale brick loaf—take off the brown crust—cut it in slices, and spread them with butter; pour over it one quart of boiled milk, and let it stand until morning; grate in one nutmeg, one teaspoonful of salt, eight eggs well beaten, a pint bowl of stoned raisins, and bake two hours. To be baked immediately after putting in the raisins and eggs.

SCALLOPPED OYSTERS.—Take crackers or rusked bread, and pound fine. Butter small tin pans, and put in alternate layers of the crumbs and oysters, having a layer of the crumbs on the top. Season them with salt and pepper and add a little butter, and oyster juice sufficient to moisten the whole. Bake till brown. The shells of large oysters are excellent used instead of pans. It is said that the shell gives a higher flavor to the oyster.

BALL TO REMOVE GREASE.—Take soft soap and fuller's earth, of each half a pound; beat them well together in a mortar and form into cakes. The spot on the cloth being first moistened with water, is rubbed with a cake, and allowed to dry, when it is well rubbed with a little warm water, and afterwards rinsed or rubbed off clean.

CRANBERRY PUDDING.—One pint of cranberries stirred into a quart of batter, made like batter pudding, but very little stiffer, is very nice, eaten with sweet sauce.

CEMENT FOR BROKEN CHINA.—Take a very thick solution of gum arabic dissolved in water, and stir it into plaster of Paris until the mixture becomes a viscous paste. Apply it with a brush to the fractured edges, and stick them together. In three days the article cannot be broken in the same place. The whiteness of the cement renders it doubly valuable.

Editor's Table.

New Subscribers for 1861.

All New Subscribers to the "Valley Farmer," for the year 1861, sending in their subscriptions before mailing our December number, will be entitled to the November and December numbers of this year. We hope our friends will remind their friends and neighbors of this fact, and induce them to send on their names. There will be a number of attractive features added to our new volume, an announcement of which will be made in our next issue.

REMARKABLE DROUGHT.—A most remarkable drought prevails in the vicinity of St. Louis and in many parts of Missouri. Stock is suffering severely for water and many stock growers are actually compelled to send their stock off several miles to be kept near water.—The ground is so dry that nurserymen cannot dig their trees without the roots coming out of the ground naked, with the loss of all their fibres. The earth is so dry that it is like dust when dug for several inches deep. We hope we shall have the "blessed rain" soon.

MEADE'S SEEDLING GRAPE.—Our excellent friend, John Pettingill, of Bunker Hill, Illinois, had on exhibition at the St. Louis Fair a number of bunches of this excellent grape. We tasted it, and think more highly of it than we did last year. It is much superior in flavor to the Catawba, in our estimation, and suffers but little, if any, by the mildew, which is certainly an important item. The Catawba grapes were entirely destroyed by mildew on the grounds of Mr. Pettingill, this season, but the Meade's Seedling was unscathed. Mr. Pettingill is an honorable and reliable man, and those ordering from him will get the genuine plants. Price, \$1 each, or \$9 per dozen.

The Last Number but One for 1860.

One more number terminates the twelfth volume of this journal. From all we can learn, it has given unbounded satisfaction to its tens of thousands of readers. It has not been filled with clap-trap articles merely to amuse the reader, but its articles have been instructive, imparting the most important information to the Farmer, Fruit Grower, Gardener, &c. It has kept its readers up with the times on the various branches to which it has been devoted. The articles it has contained have been reliable, and indeed we do not know of a single instance where we have found ourselves mistaken in the views we have advanced.—That such a journal as the "Valley Farmer" needs encouragement, all acknowledge. Are our club agents, our friends, our patrons, getting ready to give us their influence—their aid—another year? Will they all thoroughly canvass their respective neighborhoods, and enlist all farmers to the support of a good, reliable Western Agricultural Journal? The times are hard we know in many parts of the West and South—the drought has been severe—but so much the more necessity for a vigorous effort from every reader. Our list must be enlarged instead of decreasing, and we must ask the kind aid of every enterprising agriculturist in behalf of our journal. New subscribers whose names are received before mailing the next number, will receive the November and December numbers free.

THE ST. LOUIS FAIR.—The Great Fair is over for 1860. It has been a decided success, like all its predecessors. The weather was fine, the attendance large, the exhibition in all departments excellent.

We have given but little space in other departments of our journal to the Exhibition, from the fact that most excellent reports have already appeared in most of our papers. The St. Louis Fair is looked upon as a Western enterprise, and Western newspapers contain everything of interest in reference to it?

Next year various improvements will be needed, and will, doubtless, be made. A building is needed for the exhibition of Agricultural Implements, Machines, &c. Another building is also needed for Class D—the Department for the Exhibition of the Products of the Field, Garden, Seeds, Condiments, &c.

We hope these necessary buildings may be erected.

HEAVY FROSTS.—On the 11th, 12th and 13th of October, we had unusual heavy frosts for the season. Water was frozen over nearly half an inch thick and half hardy plants were greatly damaged. Of course all vegetation received a severe check.

THOROUGH-BRED.—We have often objected to the use of this term until it could be settled what it means, which, as yet, has not been done. It is a high sounding phrase, but frequently serves no other purpose than to deceive ignorant people. Hear what the well-known writer "Cecil" says about it in a paper on "The Physiology of Breeding," written for the "Farmers' Magazine": "The term thorough-bred is an expression not clearly defined, as regards any of our domestic animals, but it would be very desirable to have some rule established. It may be accepted as a principle, that breeding from animals endowed with certain properties and perfections through several generations, constitute the claim to distinction; but there is no adopted rule to determine how many generations are sufficient to establish the title."—[Boston Cultivator.

THE UNITED STATES FAIR AT CINCINNATI.—The United States Fair which was held the present season near Cincinnati, came to a close on the 20th of September. The success of the exhibition was hardly equal to some former ones held since the organization of the Society. This was owing, probably, to want of co-operation and harmony with those interested in the State Fair of Ohio, which was held at Dayton; the managers and friends of the State Show regarding the location of the United States Fair so near as to time and place of that of the State, as a kind of unwarrantable interference. Yet there was a considerable display of domestic animals and a good show of machines and mechanical devices, not only for farm use, but for almost every other purpose where economy of labor is a desideratum.

Owing to a decision of the Chairman (Col. Joseph W. Ware, of Virginia) of the Judges on thorough-bred horses, quite an affront was given to some of the Kentucky breeders of fast horses. Col. Ware decided that Old Lexington was not of pure blood, and hence his colts could not enter in competition with thorough-breds. Gibson Mallory, ex-President of the Louisville A. & M. Association was one of the number who wished to enter one of Lexington's colts, and was

ruled out by this decision. Whether there is any legitimate objection to the blood of Old Lexington, or whether from the fact that Mr. Mallory had on a former occasion exhibited a colt at the fair in St. Louis under false representations as to age or pedigree, and the fact coming to the knowledge of the Board, they, by a unanimous vote, forever excluded him from further exhibition within their grounds, governed Col. Ware in his decision, we are unable to state, but Mr. Mallory or his stock was ruled out and went home greatly offended.

Among the valuable machines, for the first time exhibited, was a large Sugar Mill and Engine from Nile's Works in Cincinnati. Its merits were so highly appreciated that a Committee of Southern Planters waited on the President of the Society, and presented a letter announcing that they had subscribed the sum of \$500, to be given as a voluntary premium to Nile's Works for the Mill, in addition to the silver medal offered by the Society. The notice was signed by Mr. C. W. Pope, in behalf of the friends of the Planters of Louisiana.

The receipts of the fair will probably reach \$13,000, but little more than half the amount taken at the fair held last season at Chicago.

A Cheap Plan for getting up Farmers' and Mechanics' Libraries.

BY J. G.

The following Constitution for the organization and regulation of a Library Association has been sent us, and requested publication. As it may prove useful, we give it an insertion.

CONSTITUTION.

Preamble.—We, the undersigned, citizens of the town of —, in the county of —, and State of —, in order to promote the cause of human progress in Agriculture, the Mechanic Arts, Common School Education and General Intelligence, do hereby organize ourselves into a Library Association by adopting the following Constitution:

I. This Association shall be known as the Farmers' and Mechanics' Library Association of the town of —, in the county of —, and the State of —.

II. The officers shall consist of a President, a Secretary, three Trustees, a Treasurer and a Librarian; who shall be elected for one year, and shall serve gratis.

III. The President shall organize, preside at, and conduct all meetings, certify to all reports and certificates, and otherwise advise. He shall deliver, or cause to be delivered, an Annual Address on some branch of Art or Science, or Human Progress, he choosing the subject.

IV. The Secretary shall keep a record of all official proceedings, enter the names of all members, the books and money received from each, the size of each volume, style of binding and number of pages, and accepted value. And, as Librarian, shall receive the books and number each volume, hand them out, and give each member a certificate of the amount of his stock in the Library.

V. The Trustees shall hold the Library in trust, shall determine the value of all books received, and shall purchase such books as shall be voted for from time to time, as funds are raised; and when not voted for, they shall select the books themselves. They shall procure cases for the books and a room in which to keep the Library, and transact such other business as may be required.

VI. The Treasurer shall receive all moneys paid in, and pay out the same as appropriated on order of the Trustees; to whom the Secretary, Treasurer and Librarian shall report quarterly, by whom these reports shall be laid before the Association.

VII. Any person, male or female, can become a member of this Association, by paying one dollar or upwards in money or books; but after this a quarterly or semi-annual tax will be assessed on all members alike, by a vote of a majority of the Association, for the purchase of new books; and all donations of books will be thankfully received, and as such will be recorded by the Secretary.

VIII. Stock may be transferred but not withdrawn. Any member failing to pay up his assessment will forfeit that amount of his stock, and an absence of over six months will be considered as a withdrawal from the Association.

IX. All members of this Association shall enjoy equal privileges in getting books to read, with this exception, when they draw more books than their amount of stock they shall deposit the balance in money with the Librarian. And all books or pamphlets not returned on or before noon of the day of the quarterly meetings, shall be recorded as sold to those who drew them at the accepted value.

X. Any member may obtain books from the Library by a second person, by sending his certificate of stock to the Librarian, which will render him responsible for the books so delivered.

XI. As this Association is formed for the mutual benefit and improvement of all its members, the time of all its officers will be required without compensation. But all necessary expenditures for the transportation of books, postage, printing of labels, certificates, &c. will be paid out of the funds of the Association.

XII. This Library shall consist principally of Agricultural, Horticultural, Mechanical, Historical, Scientific and select Miscellaneous works of all kinds, except novels.

XIII. A majority of votes shall elect all officers and decide all modes of procedure, and this Constitution can be altered or amended by a majority of votes, by giving three months notice to that effect.

FARMERS' CLUB, DUBUQUE, IOWA.—Mr. J. E. C. Heyer informs us that a meeting of the Farmers and Fruit Growers of Dubuque County, Iowa, was held on the 29th of September last, for the purpose of establishing a "Farmers' Club," the object of which is to discuss topics of interest in Agriculture, Horticulture, Pomology and Floriculture.

We cheerfully comply with the requests frequently made of us, to send copies of the Constitution and By-Laws of similar associations, for the guidance of those who are about forming such. We will publish a sample of Constitution and By-Laws suitable for "Farmers' Clubs," in a future issue of the "Farmer."

HORTICULTURAL SOCIETY AT HANNIBAL, MO.—We learn that the preliminary steps have been taken for establishing a horticultural society as above. Both the fruit growers and fruit consumers of that enterprising city will find such a Society, properly conducted, greatly conducive to their interests, and all should take a lively interest in it. Hundreds of other towns in Missouri might be benefitted in the same way. The orchard and garden, by their products, contribute much to health, happiness and profit; and their successful culture is so well promoted by means of such societies that no flourishing town can well afford to do without one.